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FINAL BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT STUDY AREA 2 WITH TRANSMITTAL LETTER NTC ORLANDO FL
7/6/1999
HARDING LAWSON ASSOCIATES

Harding Lawson Associates

July 6, 1999
Commanding Officer
SOUTHNAVFACENGCOM
2155 Eagle Drive
North Charleston, SC 29419-9010

ATTN: Ms. Barbara Nwokike, Code 187300

Subject: **BRAC Environmental Site Screening Report**
Study Area 2, Herndon Annex
NTC, Orlando
Contract: N62467-89-D-0317

Dear Barbara:

Enclosed is the final BRAC Environmental Site Screening Report, Study Area 2, Herndon Annex. HLA submitted response to regulator comments at the OPT meeting June 16 and 17, 1998, and has incorporated USEPA and FDEP comments into the text and figures of the report. In addition, HLA addressed recent OPT concerns regarding the appropriate BRAC color code, the language in the text referring to Florida's petroleum rule (62-770, F.A.C.), and implementation of future remedial measures.

Should you have any questions or need additional information, please call me at (904) 772-7688.

Very Truly Yours,

Harding Lawson Associates

Anne Philippon
for Richard P. Allen
Project Technical Lead

Enclosure

cc: Wayne Hansel, Southern Division
Nancy Rodriguez, USEPA Region IV
David Grabka, FDEP
Robin Manning, BEI
Steve McCoy, Tetra Tech/NUS
Al Aikens, CH2M Hill
John Kaiser, HLA
file

Engineering and
Environmental Services
2590 Executive Center Circle East, Tallahassee, FL 32301 850/656-1293 Fax 850/656-3386

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BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT

STUDY AREA 2, HERNDON ANNEX

NAVAL TRAINING CENTER ORLANDO, FLORIDA

Unit Identification Code: N65928

Contract No.: N62467-89-D-0317/107

Prepared by:

Harding Lawson Associates
2590 Executive Center Circle, East
Tallahassee, Florida 32301

Prepared for:

Department of the Navy, Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
North Charleston, South Carolina 29418

Barbara Nwokike, Code 1873, Engineer-in-Charge

July 1999

BASE REALIGNMENT AND CLOSURE
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July 1999

CERTIFICATION OF TECHNICAL
DATA CONFORMITY (MAY 1987)

The Contractor, Harding Lawson Associates, hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-89-D-0317/107 are complete and accurate and comply with all requirements of this contract.

DATE: July 6, 1999

NAME AND TITLE OF CERTIFYING OFFICIAL: John Kaiser
Task Order Manager

NAME AND TITLE OF CERTIFYING OFFICIAL: Richard Allen
Project Technical Lead

(DFAR 252.227-7036)

EXECUTIVE SUMMARY

Harding Lawson Associates (HLA), under contract to the Southern Division, Naval Facilities Engineering Command, has prepared this Site Screening Report for Study Area (SA) 2, located at the Herndon Annex, Naval Training Center, Orlando, Florida. This report was prepared under the Comprehensive Long-Term Environmental Action, Navy Contract No. N62467-89-D-0317 as Contract Task Order No. 107.

The objective of the site screening investigation was to locate and identify any compounds that may be present at concentrations in excess of screening criteria. The investigation required several phases to complete. During the Phase I field investigation completed in September 1994, no contaminants were found in excess of screening criteria in either soil or groundwater. However, geophysical surveys indicated the likelihood that landfill materials were present, and Orlando Partnering Team (OPT) concerns about leaching of landfill materials to groundwater prompted them to request a Phase II investigation to collect surface soil samples within mapped landfill areas and install additional monitoring wells downgradient from those areas. Phase II was completed between February and June 1996; results included two groundwater samples from wells screened at the base of the surficial aquifer with benzene detected at concentrations exceeding State and Federal maximum contaminant levels. Certain other chlorinated solvents, including tetrachloroethene and trichloroethene, were also detected during these investigations, but their occurrences were less consistent than benzene and their concentrations were not indicative of widespread chlorinated solvent contamination. These findings led the OPT to request a continuation of Phase II screening investigations to evaluate and characterize the groundwater contamination in the surficial aquifer and determine whether or not the contaminant source was located under Herndon Annex. The additional Phase II screening was completed with direct-push technology (DPT), which utilized a cone penetrometer testing rig, and resulted in the conclusion that an off-site (upgradient) benzene source was likely.

In June 1996, the U.S. Army Corps of Engineers conducted an investigation on behalf of the Greater Orlando Aviation Authority to determine if groundwater upgradient (south) of Herndon Annex had benzene contamination. The study collected groundwater samples up to 40 feet below land surface (bls) and did not detect any contamination. However, this study was considered inconclusive by the OPT, as the Phase I and Phase II investigations had only detected benzene above maximum contaminant levels (MCLs) at depths greater than 40 feet bls.

In October 1996, HLA completed Phase III site screening activities, which consisted of a second DPT survey to better define the location of benzene contamination. Phase III also included the installation of three piezometer clusters to better evaluate the direction of horizontal groundwater flow and vertical hydraulic head differences in the surficial aquifer. The benzene contamination plume, as determined in Phase III, was largely confined to the southeastern corner of Herndon Annex at depths from 40 to 62 feet bls. HLA concluded that the data cannot preclude an on-site benzene source. However, the absence of benzene detections at depths shallower than 40 feet bls reduces the likelihood of an on-site release. Historical evidence suggests a potential benzene and/or chlorinated solvent source at the former firefighter training area (FTA) upgradient from Herndon Annex that allegedly operated from 1947 to 1962. Other potential sources are the numerous World War II era aircraft parking aprons, many of which are upgradient of the Annex, and the refueling or defueling operations that undoubtedly took place there.

In the spring of 1997, due to the presence of benzene above MCLs along the eastern margin of Herndon Annex, HLA started Phase IV site activities, focused on additional mapping of the benzene plume in the deep surficial aquifer. Field activities included additional groundwater screening with DPT both on site (Herndon Annex) and off site (in the Azalea Park Neighborhood east of Herndon Annex). Groundwater screening was followed by the installation of eight monitoring wells screened at various depths to confirm screening results.

Based on data collected through 1997, HLA has concluded that a benzene plume exists under Herndon Annex and the Azalea Park Neighborhood at concentrations of up to 83 micrograms per liter, the highest benzene concentration measured from any monitoring well. Although the source of the plume has not been positively identified, the historical, geologic, and chemical data collected in site screening activities indicate the strong likelihood that the contamination is due to past site activities by the U.S. Army Air Corps (USAAC) and the U.S. Air Force (USAF). The USAAC took over the Orlando Municipal Airport in 1940 and the USAF took control in 1947.

The footprint of the plume at depths greater than 50 feet bls is more than 50 acres. The zone of contamination is from 10 to 30 feet thick and is largely confined to depths greater than 40 feet bls. An exception to this is the deep drainage ditch that forms the east boundary of Herndon Annex, where contaminants are discharging to surface water at the base of the ditch. The site screening data are consistent with a benzene plume that has migrated onto Herndon Annex from an off-site source, and whose source is depleted. Further attempts to define the source(s) of contamination would very likely prove to be futile. Benzene appears to be the only contaminant of concern.

OPT concerns during review of the draft final report for Herndon Annex included a recommendation that two additional monitoring wells be installed (intermediate and deep depth intervals) in the portion of the benzene plume with the highest contaminant concentrations (as determined from DPT), along with groundwater sampling in all monitoring wells for volatiles and natural attenuation parameters. This was completed in the fall of 1998. HLA has concluded from these data that natural attenuation is taking place in the four monitoring wells in which there are benzene detections and multiple sampling events. This is demonstrated by a decrease in benzene concentrations from 14 to 100 percent during the period of August 1997 to December 1998. In no instance was there an increase in the concentration of benzene.

Because of the presence of former landfills at Herndon Annex, HLA recommends that transfer documents notify future residents of their presence, and that institutional controls be established to limit intrusive activities over former landfills and to maintain the existing cover.

Based on the reported benzene concentrations in groundwater, HLA recommends that an evaluation of remedial options and a cost benefit analysis should be completed. HLA also recommends that a quarterly groundwater monitoring program of selected wells be implemented. Samples would be collected and submitted for volatiles analysis and natural attenuation parameters only, and data would be evaluated to determine if there are any trends in the increase or decrease of concentrations of benzene. The monitoring program should include any private irrigation wells within the benzene plume. Concurrently with the groundwater monitoring program, HLA recommends that a focused risk assessment be conducted to evaluate potential exposure due to private irrigation wells known to exist in the Azalea Park Neighborhood. The results of the risk assessment should be included in the first quarter monitoring report. After a period of one year, the monitoring program would be reevaluated to determine if additional remedial measures are warranted or if natural processes are causing a reduction in contaminant concentrations at a rate comparable to active remedial measures.

HLA further recommends that a temporary groundwater-use restriction be imposed for the shallow portion of the surficial aquifer pending results of the groundwater monitoring program. The groundwater-use restriction should include an advisory to the St. Johns River Water Management District and the City of Orlando that no surficial wells are to be permitted while the restriction is in effect. Local residents should be issued a groundwater-use advisory warning them of the potential hazards from using the surficial aquifer as a potable water source. And finally, because the contamination is fuel-related and historical evidence indicates the strong likelihood that the source of contamination is either a former FTA or numerous World War II era aircraft parking aprons, HLA recommends that after institutional controls and the chosen remedial alternative (monitoring) are in place, SA 2 be made eligible for transfer, and that the site be reclassified from 7/Gray to 4/Dark Green.

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GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
AST	aboveground storage tank
bls	below land surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
CLP	Contract Laboratory program
CPT	cone penetrometer testing
DCA	dichloroethane
DCE	dichloroethene
DDE	dichlorodiphenyldichloroethene
DDT	dichlorodiphenyltrichloroethane
DPT	direct-push technology
DQO	data quality objective
FDEP	Florida Department of Environmental Protection
FTA	firefighter training area
GC	gas chromatograph
GCTL	groundwater cleanup target level
GOAA	Greater Orlando Aviation Authority
GPR	ground penetrating radar
HLA	Harding Lawson Associates
MCL	maximum contaminant level
$\mu g/\ell$	micrograms per liter
$\mu g/kg$	micrograms per kilogram
mg/ℓ	milligrams per liter
NTC	Naval Training Center
OAFB	Orlando Air Force Base
OPT	Orlando Partnering Team
PAH	polynuclear aromatic hydrocarbons
PCA	tetrachloroethane
PCE	tetrachloroethene
RBC	risk-based concentration
SA	Study Area
SCTL	soil cleanup target level
SSP	Site Screening Plan
TAL	target analyte list
TC	trichloroethene
TCE	trichloroethene
TCL	target compound list

USAAC	U.S. Army Air Corps
USACOE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank
VOC	volatile organic compound

1.0 INTRODUCTION

1.1 INTRODUCTION. This report contains information collected during site screening activities conducted at Study Area (SA) 2, Herndon Annex. The focus of site screening investigation activities was initially Facility 6001, which is an abandoned septic system, and several former aircraft parking aprons. Due to the discovery of landfilled materials and a benzene contaminant plume in deeper portions of the surficial aquifer, subsequent environmental concerns included surface soils. The initial phase of screening fieldwork began in September 1994, and the most recent investigations were completed in December 1997. Multiple phases of the site screening investigation were required due to the discovery of a benzene plume in the deep portion of the surficial aquifer, the apparent result of fuel-related practices at the site during the 1940s and 1950s.

1.2 BACKGROUND AND CONDITIONS. This section includes a brief background summary for SA 2. Further details can be found in the Site Screening Plan (SSP) (ABB Environmental Services, Inc.[ABB-ES], 1995a).

The Naval Training Center (NTC), Orlando encompasses 2,072 acres in Orange County, Florida, and consists of four discrete facilities: Main Base, Area C, Herndon Annex, and McCoy Annex (Figure 1-1). SA 2, Herndon Annex, is located approximately one and one-half miles south of the Main Base of NTC (Figure 1-2). The history of Herndon Annex dates to the construction of the original Orlando Municipal Airport, prior to 1940. In August 1940, the U.S. Army Air Corps (USAAC) established a tent camp on the southwest side of the old municipal airport. At this time, the City of Orlando agreed (under an AP-4 Agreement with the Federal Aviation Agency) to improve the airport under Army sponsorship. Figure 1-3 presents a historical map (June 1945) showing the Orlando Army Air Base and its many taxiways and aircraft parking aprons. The improvements to the Orlando Municipal Airport were made by the Army under the "Development of Landing Areas for National Defense" program. The municipal field was later named Herndon Airport (Beach Associates, 1964; ABB-ES, 1994).

The construction of Orlando Army Air Base began in August 1940, and it was officially opened on December 1, 1940. During the next two years, the USAAC acquired additional property, including land north of Colonial Drive (State Route 50, or Old Cheney Highway), for the U.S. Army Air Force School of Applied Tactics. This property is now referred to as Main Base, Figure 1-1. Crews were given advanced training in bombardment methods and tactics at this school. The Air Defense Department was established to train fighter pilots in the techniques of defense against air bombardment attacks (Beach Associates, 1964; ABB-ES, 1994).

In 1947, the U.S. Air Force (USAF) assumed command of the facilities at Orlando Army Air Base, and the facility became known as Orlando Air Force Base (OAFB).

After World War II, OAFB served as a separation center and the headquarters for the Proving Ground Command (assigned to OAFB until July 1946). Reactivation of the Combat Air Command 14th Air Force brought the headquarters of the famous "Flying Tigers" to OAFB in 1946 (Beach Associates, 1964).

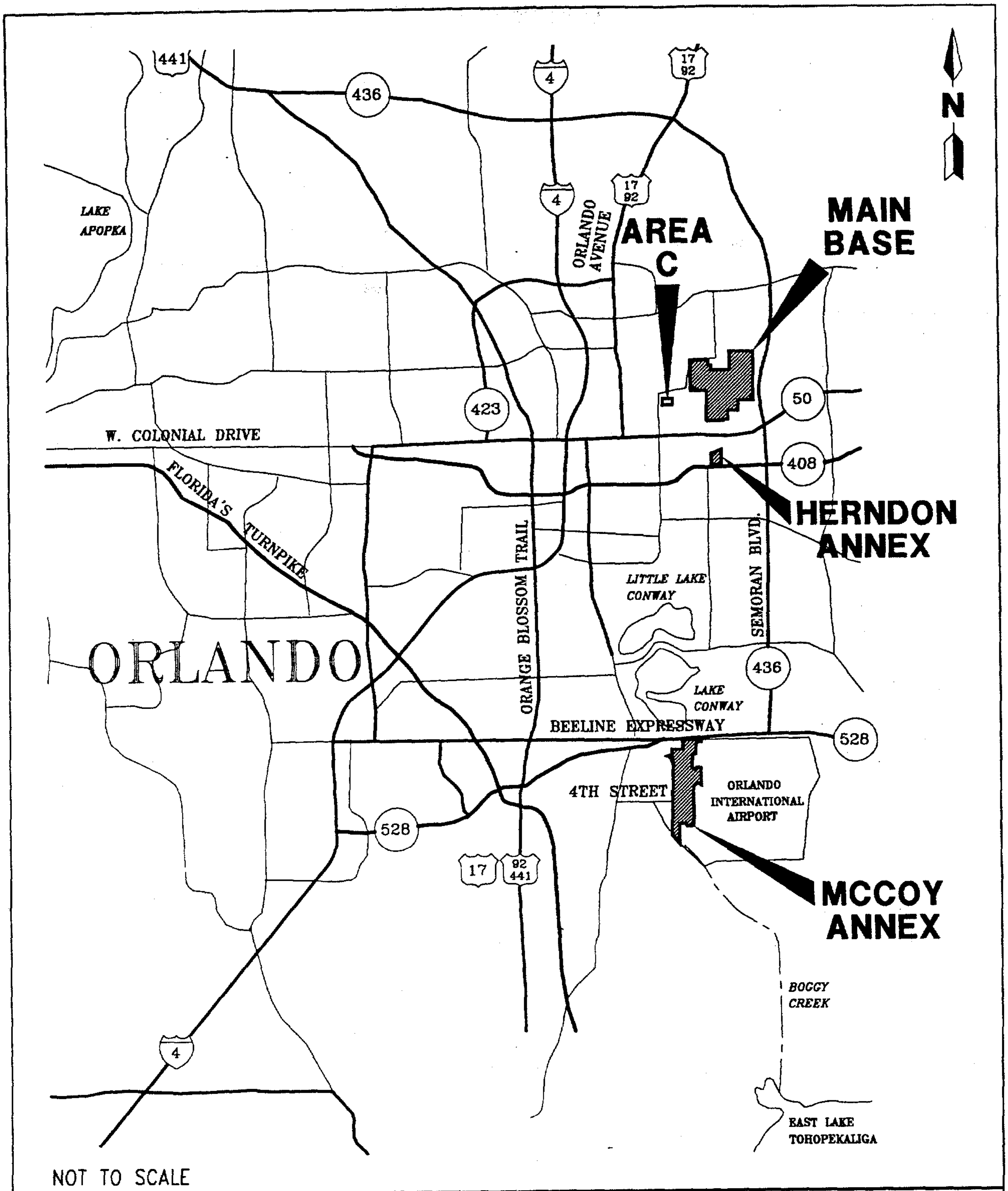

FIGURE 1-1
LOCATION OF NAVAL TRAINING CENTER, ORLANDO

BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT, STUDY AREA 2 HERNDON ANNEX NAVAL TRAINING CENTER ORLANDO, FLORIDA

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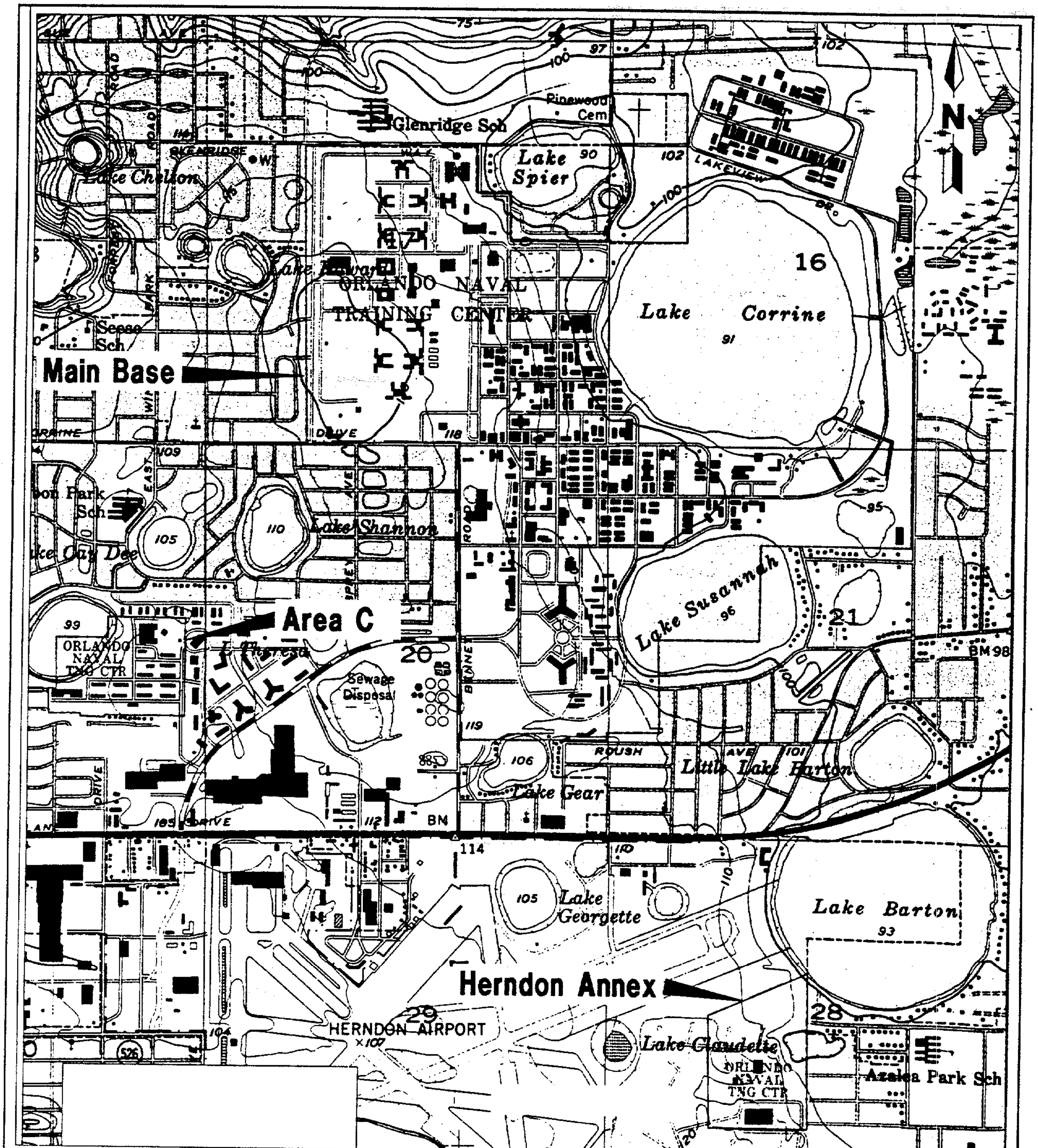

0 1,000 2,000

SCALE: 1 INCH = 2,000 FEET

Reference: United States Geological Survey Quadrangle for Orlando East, Florida 1956, Photorevised 1980.

FIGURE 1-2
SITE LOCATION MAP
MAIN BASE, HERNDON ANNEX
AND AREA C

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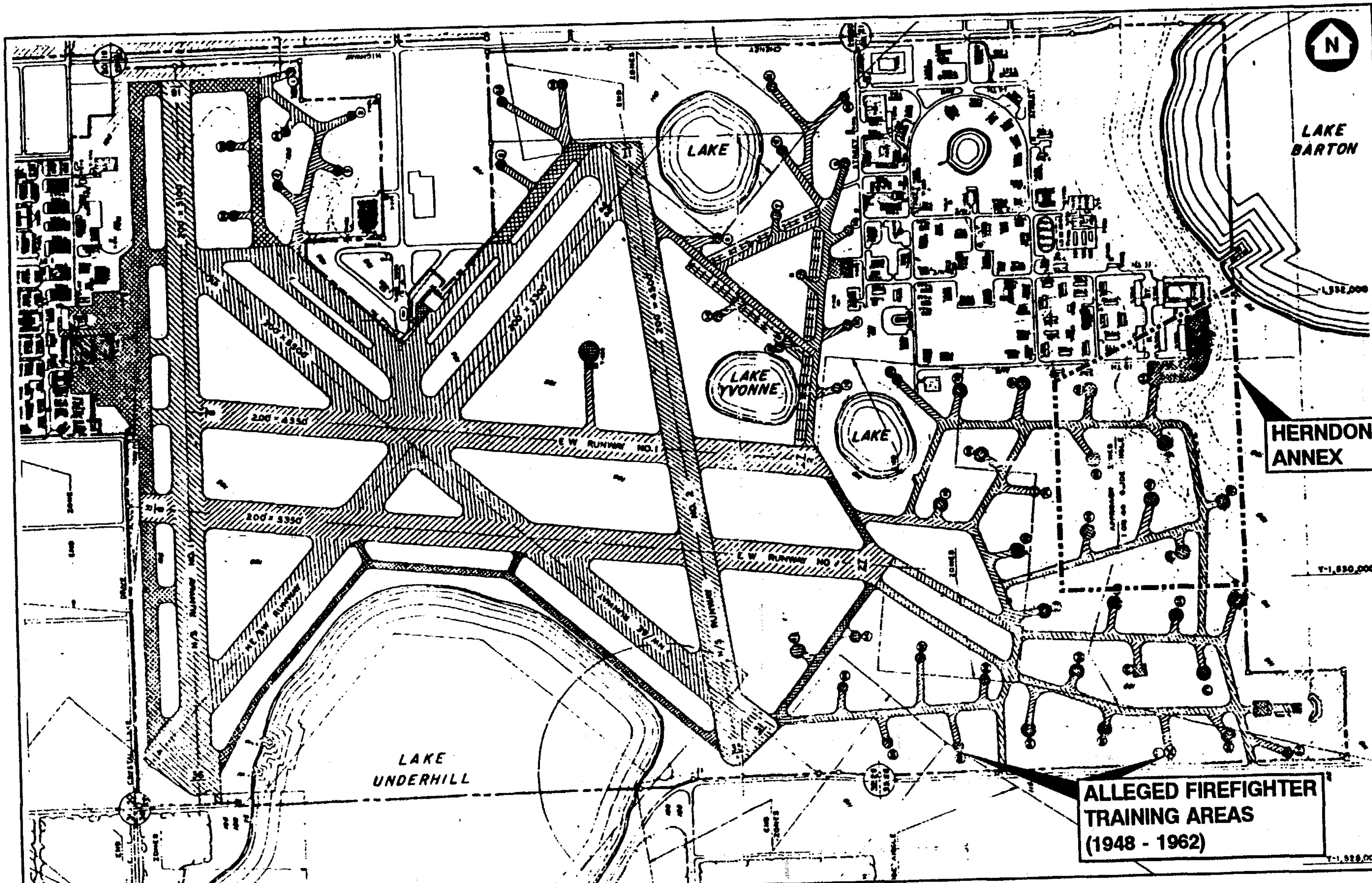
SOUTHERN DIVISION NAVAL FACILITIES ENGINEERING COMMAND

BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT, STUDY AREA 2
HERNDON ANNEX
NAVAL TRAINING CENTER
ORLANDO, FLORIDA



Scale in Feet

0 1200 2400

SOURCE: AAFPGC & Orlando Army Air Base Layout Plan, U.S. Engineer Office, Savannah, GA., Sheet 1 of 2, June 1945

FIGURE 1-3
SITE PLAN,
ORLANDO ARMY AIR BASE,
JUNE 1945

BASE REALIGNMENT AND CLOSURE
ENVIRONMENTAL SITE SCREENING
REPORT, STUDY AREA 2
HERNDON ANNEX
NAVAL TRAINING CENTER
ORLANDO FLORIDA

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OAFB was deactivated on October 29, 1949, and remained on a standby basis for two years. OAFB remained on standby status until January 1, 1951, when it was reactivated as an Aviation Engineers training site (Beach Associates, 1964). During this period, the airfield and other excess property needs were scheduled for disposition under the War Surplus Act. The airport facilities and adjoining tracts were transferred to the City of Orlando, while control of Herndon Annex was retained by the USAF. Herndon Annex property, which was used on an occasional basis in the 1950s and early 1960s by the USAF as a sanitary landfill site, was held for potential future use as a disposal area in the event that another disposal area in the northwest section of the Main Base (i.e., the North Grinder Area) proved inadequate to meet the needs of the base (Beach Associates, 1964).

In 1968, the USAF ceased operations at OAFB, and the Navy acquired the properties now referred to as Main Base, Area C, and Herndon Annex. These properties were commissioned as the NTC on July 1, 1968 (ABB-ES, 1994). Remnants of some of the parking aprons and taxiways are still in evidence.

2.0 INITIAL SITE SCREENING INVESTIGATION - PHASE I (1994)

2.1 FIELD PROGRAM - PHASE I. Field activities during Phase I included an evaluation of Facility 6001, which is an abandoned septic system, and more general studies of the soil and groundwater conditions around several former aircraft parking aprons. In addition, concerns about the past uses of the site for landfilling were addressed. Studies included geophysical surveys, subsurface soil sampling, and monitoring well installation and groundwater sample collection.

2.1.1 Facility 6001, Abandoned Septic System Evaluation The abandoned septic system identified as Facility 6001 is located north of Building 602. The sources and type of wastes processed through this system were not identified during the environmental baseline survey, although it was assumed the facility received domestic waste from surrounding buildings, and spent chemical solutions from Building 606, which once contained a machine shop and contained baths for metal treatment (ABB-ES, 1994). A review of NTC Public Works Department drawings 4388 (1969) and 3977 (1971) obtained prior to commencement of field activities indicates Building 602 was the only facility connected to the septic system. Building 606 appears to have discharged wastewater to an off-site treatment facility via a forced main since the time of construction, and is unlikely to have ever been connected to Facility 6001. Scattered areas of distressed vegetation and surface exposures of buried refuse were observed during the walkover reconnaissance of the area surrounding Facility 6001.

The location and geometry of the leach field was established prior to commencement of field activities through a review of the above-referenced drawings. Effluent from the 1000-gallon-capacity septic tank flowed out to the northeast of Building 602 through a 50-foot-long, 4-inch-diameter PVC pipe and then into two 75-foot-long, 4-inch-diameter perforated PVC leach pipes. Three monitoring wells surrounding the inferred location of the leach field were anticipated in the SSP; however, it was determined that a single monitoring well (OLD0206A), installed within the leach field, downgradient of the septic tank, would be sufficient to fulfill the site screening objectives for this site. The "A" designation indicates that the well is screened in the shallowest portion of the surficial aquifer. "B" and "C" monitoring well designations, below, will refer to wells that have been completed in the intermediate ("B") and deep ("C") portions of the surficial aquifer. One subsurface soil sample (02B00601) and one groundwater sample (02G00601) were collected at this monitoring well location and submitted for full suite Contract Laboratory Program (CLP) target compound list (TCL) and target analyte list (TAL) analyses, in accordance with the U.S. Environmental Protection Agency (USEPA) Level IV data quality objective (DQOs). The monitoring well screened interval bracketed the water table.

In the sample designations, which are of the form SSXYYYZZ, "SS" refers to the study area, "X" refers to the media sampled ("B" is subsurface soil, i.e., deeper than two feet below land surface (bls); "G" is groundwater; and "S" is surface soil), "YYY" refers to the sample number, and "ZZ" refers to the sampling episode ("01" is the first sample taken from that location and depth interval, "02" is the second, and so forth).

One wastewater sample (02Z00101) was collected from the open septic tank and submitted for full suite CLP TCL and TAL analyses to verify the concentration of any residual contaminants. Field observations indicated there was no appreciable amount of sludge at the bottom of the septic tank; therefore, no sludge sample was collected for analysis.

2.1.2 General Investigation of Herndon Annex Site reconnaissance walkovers and geophysical survey methods were employed at several areas within the Herndon Annex property in order to further evaluate potential landfilled areas identified in aerial photographs. Scattered areas of distressed vegetation and surface exposures of buried refuse were observed during the walkover reconnaissance of the southwest, south-central, and northwest areas of Herndon Annex. Exposed refuse observed included rolls of film, china, tableware, deteriorated drum parts, and medical waste.

2.1.2.1 **Geophysics** Geophysical surveys included magnetometer and ground penetrating radar (GPR) surveys in the southwest, south-central, and northwest portions of Herndon Annex (Figure 2-1). The surveys took place between August 19 and August 24, 1994. Magnetometer readings were taken at grid nodes spaced 20 feet apart, and parallel GPR traverses 50 feet apart were completed. The results of the geophysical surveys are discussed in Paragraph 2.2.2.1.

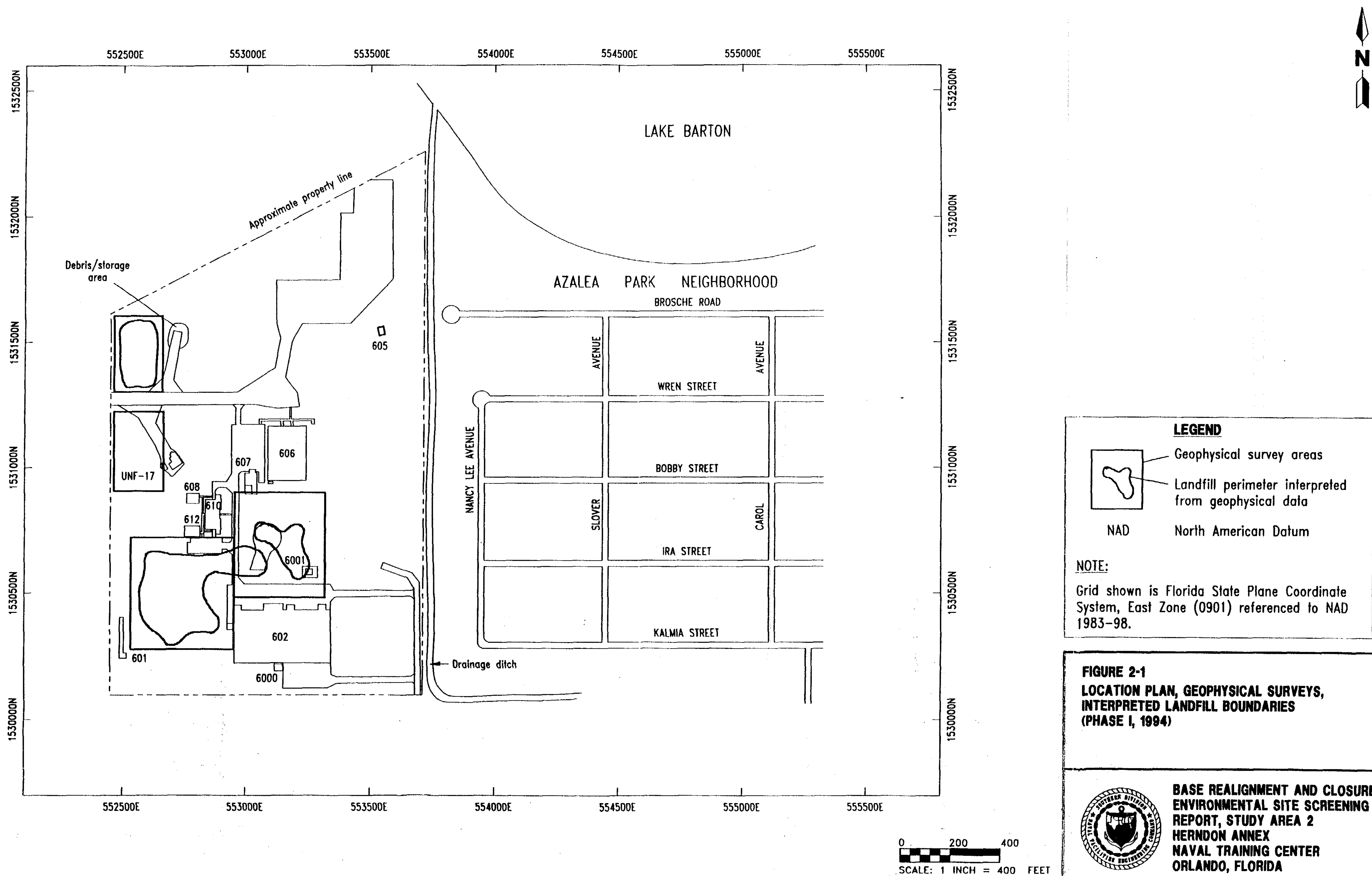
2.1.2.2 **Subsurface Soil** Soil borings were situated to evaluate potential soil impact related to maintenance operations at aircraft parking areas and also to provide useful information for evaluation of adjacent landfilled areas. Five soil borings were advanced to depths of approximately 13 to 17 feet bls. Subsurface soil samples associated with aircraft parking areas (02B00101 through 02B00501) were collected from moist soil overlying the groundwater interface in each boring (Figure 2-2). Soil samples were submitted for CLP TCL volatile organics analysis in accordance with Level IV DQOs. The soil borings were completed as monitoring wells.

2.1.2.3 **Groundwater** Six soil borings were completed as monitoring wells during Phase I. Monitoring wells OLD0201A, OLD0202A, and OLD0203A were completed prior to establishing the location for monitoring wells OLD0204A, OLD0205A, and OLD0206A. Screened intervals intercepted the water table. Boring logs and monitoring well installation diagrams for the wells are presented in Appendix A. Monitoring wells OLD0201A through OLD0205A correspond to soil borings 02B001 through 02B005.

A northeasterly groundwater flow direction was determined from groundwater elevations measured in monitoring wells OLD0201A, OLD0202A, and OLD0203A. One groundwater sample was collected from each of the five monitoring wells associated with aircraft parking areas (OLD0201A through OLD0205A). Groundwater samples were submitted for low-detection limit CLP TCL volatile organics analysis. Volatile organics were analyzed in accordance with Level IV DQOs. Following further investigations at this study area, monitoring wells OLD0201A, OLD0202A, and OLD0205A were resampled for full suite analysis, as described in Subsection 3.1.1.

2.2 RESULTS - PHASE I.

2.2.1 Facility 6001, Abandoned Septic System Evaluation Three samples were collected at Facility 6001. They consisted of wastewater (02Z00101), soil (02B00601), and groundwater (02G00601). A summary of positive detections in soil



LEGEND

Geophysical survey areas

Landfill perimeter interpreted from geophysical data

NAD North American Datum

NOTE:

Grid shown is Florida State Plane Coordinate System, East Zone (0901) referenced to NAD 1983-98.

FIGURE 2-1
LOCATION PLAN, GEOPHYSICAL SURVEYS, INTERPRETED LANDFILL BOUNDARIES (PHASE I, 1994)

BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT, STUDY AREA 2
HERNDON ANNEX
NAVAL TRAINING CENTER
ORLANDO, FLORIDA

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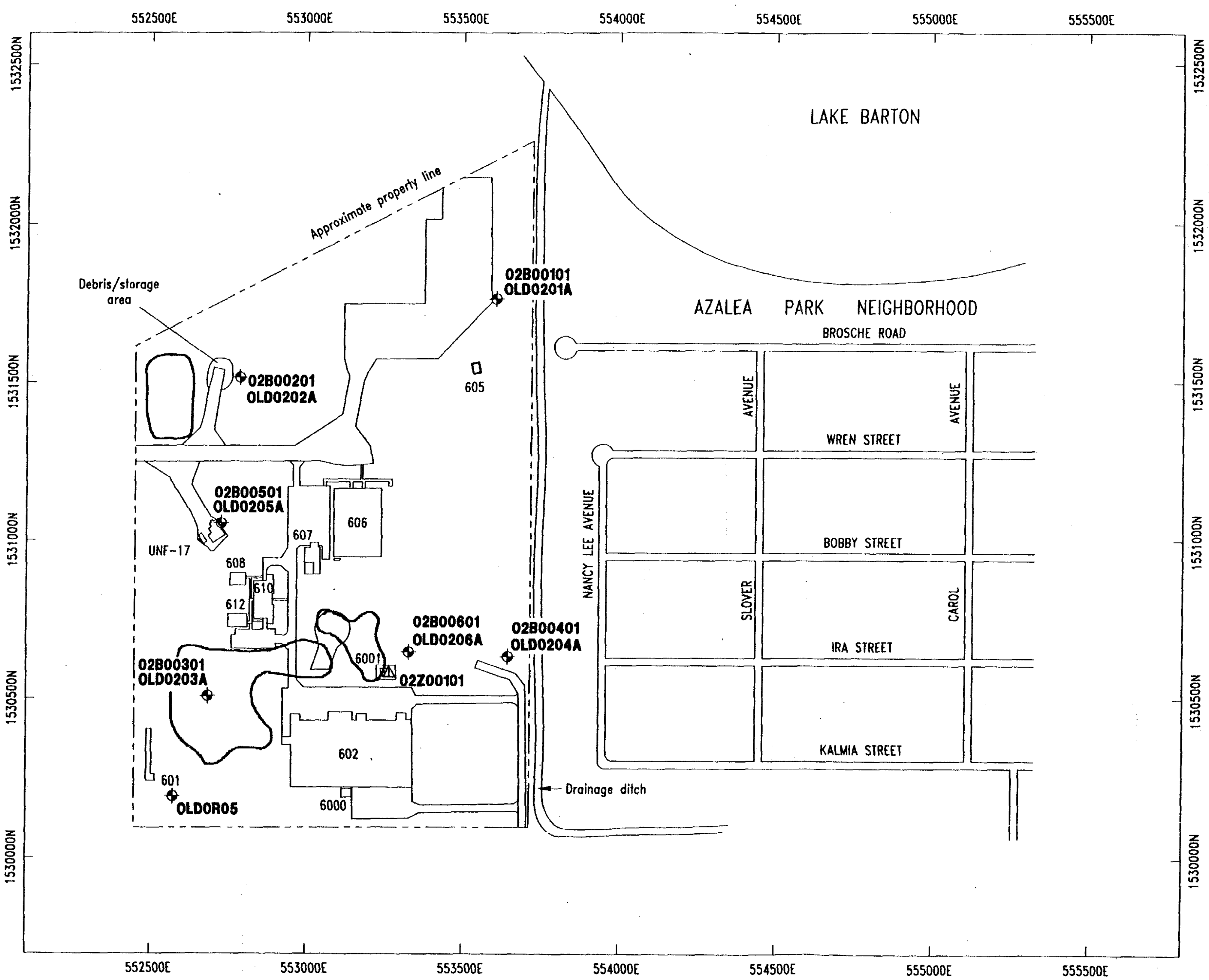

LEGEND

	Landfill perimeter interpreted from geophysical data
02B00101 OLD0201A	Soil boring, subsurface soil and monitoring well location and designation
02Z00101 △	Wastewater sampling location and designation
NAD	North American Datum

NOTES:

Grid shown is Florida State Plane Coordinate System, East Zone (0901) referenced to NAD 1983-98 datum.

Monitoring well OLDOR05 was installed during the background sampling investigation (ABB-ES, 1995c).

0 200 400

SCALE: 1 INCH = 400 FEET

FIGURE 2-2
LOCATION PLAN, MONITORING WELLS, SOIL BORINGS, AND SURFACE AND SUBSURFACE SOIL SAMPLES (PHASE I, 1994)

BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT, STUDY AREA 2 HERNDON ANNEX NAVAL TRAINING CENTER ORLANDO, FLORIDA

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and groundwater analytical results is presented in Appendix B. A complete summary of analytical results is presented in Appendix C. No significant concentrations of contaminants were detected in soil and groundwater samples taken from the monitoring well location in the leach field or from the wastewater sample taken from the abandoned septic tank.

Calcium, copper, iron, manganese, mercury, and zinc were detected in subsurface soil from boring 02B00601 at concentrations above background screening values, but below the corresponding residential risk-based concentrations (RBCs).

Di-n-butylphthalate (600 micrograms per kilogram [μg/kg]) was also detected in subsurface soil from boring 02B00601, but was well below the corresponding RBCs. The leachability-based soil cleanup target level (SCTL) value was not considered, because di-n-butylphthalate was not present in groundwater.

Aluminum, beryllium, chromium, copper, mercury, and vanadium were detected above background screening values in well OLD0206A. However, with the exception of aluminum at 5,500 micrograms per liter (μg/ℓ), all concentrations were less than Florida Department of Environmental Protection's (FDEP's) groundwater cleanup target levels (GCTL).

Only potassium and cobalt concentrations in the wastewater exceeded the background screening values for groundwater, but were still below tap water RBCs.

Leachability-based SCTL values were not considered because no organic compounds were present in groundwater above FDEP GCTLs (Paragraph 2.2.2.3 below).

2.2.2 General Investigation of Herndon Annex

2.2.2.1 **Geophysics** Geophysical surveys included magnetometer and GPR surveys in the southwest, south-central, and northwest portions of Herndon Annex (Figure 2-1). The magnetic and GPR data indicate that the southwest and south-central survey areas have numerous anomalies that are not explained by known subsurface structures or observable surface features. Chaotic reflections in GPR data were observed, a condition consistent with buried waste materials. Although unconfirmed by actual field verification, the landfill cover appears to be in the range of 1 to 3 feet thick, and in some areas may be greater than 3 feet thick. The interpreted landfill waste boundaries based on the geophysical data are also shown on Figure 2-1.

The northwest survey area is not anomalous magnetically, although the GPR data are consistent with buried debris. Three subtle north-south trending ridges were observed at the surface in this area, suggesting settlement of filled trenches, a waste disposal method commonly used by the military. Additional details are presented in Appendix D.

2.2.2.2 **Subsurface Soil** A summary of positive detections in subsurface soil analytical results for samples collected adjacent to the aircraft parking areas is presented in Appendix B. A complete set of soil analytical results is presented in Appendix C. Only CLP volatile organic compound (VOC) analyses of soil and groundwater were conducted during Phase I. Acetone was detected in subsurface soil at two locations (02B002 and 02B003), but at concentrations well below the residential RBC. Because acetone was not detected in groundwater at Herndon Annex, leachability-based SCTLs do not apply.

2.2.2.3 **Groundwater** A summary of positive detections in groundwater analytical results for samples collected in the aircraft parking areas is presented in Appendix B. A complete set of groundwater analytical results is presented in Appendix C. Only CLP VOC analyses of groundwater were conducted during Phase I. Chloroform, chloromethane, and 2-butanone were detected in monitoring wells OLD0201A, OLD0203A, and OLD0205A, respectively, but at concentrations below FDEP GCTLs.

3.0 SITE SCREENING - PHASE II (1995)

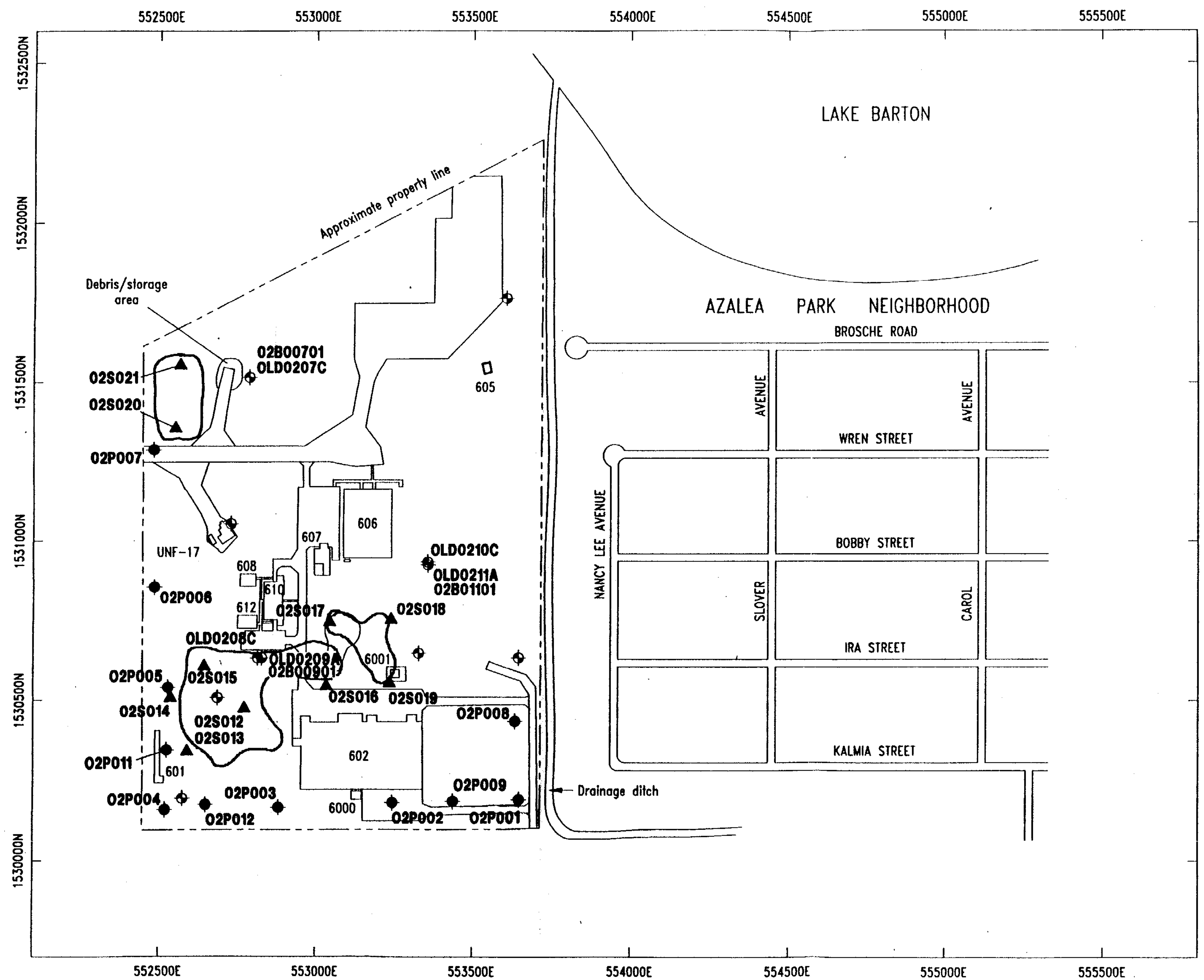
3.1 FIELD PROGRAM - PHASE II. Geophysical surveys conducted during Phase I in the fall of 1994 indicated the strong likelihood of landfill cells in several areas of Herndon Annex. Therefore, an agreement to install additional groundwater monitoring wells was made during the September 1994 Base Realignment and Closure (BRAC) cleanup team meeting to further evaluate the potential for soil or groundwater impact associated with landfilled materials.

3.1.1 Deep Groundwater and Subsurface Soil Sampling (February 1995) Two shallow wells (OLD0209A and OLD0211A) and three wells to the base of the surficial aquifer (OLD0207C, OLD0208C, and OLD0210C) were installed hydraulically downgradient of suspected landfilled areas (Figure 3-1). During well development, flame ionization detector detections exceeding 2,000 parts per million were detected in the headspace of a 55-gallon drum containing purge waters from well OLD0208C. As noted earlier, the "A" designation indicates that the well is screened in the shallowest portion of the surficial aquifer. "B" and "C" monitoring well designations refer to wells that have been completed in the intermediate ("B") and deep ("C") portions of the surficial aquifer. Monitoring wells OLD0201A, OLD0202A, and OLD0205A were also resampled to evaluate potential impacts from landfill materials. Groundwater from these wells had been previously analyzed only for VOCs. One groundwater sample from each well was submitted for full suite CLP TCL and TAL analysis and gross alpha and beta radionuclides in accordance with USEPA Level IV DQOs.

One subsurface soil sample was collected from each of three soil borings during well installation and submitted for full suite CLP laboratory analysis. The samples, 02B00701, 02B00901, and 02B01101, were collected approximately 8 feet bls. A summary of positive detections is provided in Appendix B. The complete set of analytical results is included in Appendix C.

3.1.2 Surface Soil Sampling over Former Landfills (June 1995) Three areas were defined during geophysical surveys at Herndon Annex in which landfilling activities have been confirmed or are suspected. They are shown on Figure 2-1: northwest geophysical survey area, and southwest and south-central geophysical survey areas. The total area of each of these areas is 1.25, 4, and 3.4 acres, respectively. Harding Lawson Associates (HLA) collected surface soil samples from each of these areas at the density of at least one sample per acre within a depth range of zero to 1 foot bls. Each sample was composited from five locations within each 1-acre block as shown on Figure 3-2. Samples taken for VOCs were not composited, but were taken from the central node of the composite pattern. Two samples were obtained from the northwest geophysical survey area, four from the southwest geophysical survey area, and four from the south-central geophysical survey area, for a total of 10 samples. The samples were designated 02S01201 through 02S02101 (Figure 3-1). A field duplicate sample was also collected. Surface soil samples were submitted for full suite CLP TCL and TAL laboratory analysis in accordance with USEPA Level IV DQOs.

3.1.3 Direct-Push Technology (DPT) Investigation No. 1 (May/June 1995) A DPT survey utilizing a cone penetrometer test drill rig was proposed to perform cone penetrometer testing (CPT) and discrete-depth groundwater sampling. The objective for this work was to map the benzene contamination plume.



LEGEND

	Landfill perimeter interpreted from geophysical data
	Phase I soil boring and monitoring well location and designation (see Figure 2-2 for designations)
02B00701 OLD0207C	Soil boring, subsurface soil and monitoring well location and designation
02P001	Phase II direct-push technology exploration/sampling location and designation
02S012 ▲	Surface soil sampling location and designation
DPT	Direct-push technology
NAD	North American Datum

NOTES:

Grid shown is Florida State Plane Coordinate System, East Zone (0901) referenced to NAD 1983-98.

FIGURE 3-1
LOCATION PLAN, MONITORING WELLS, SOIL BORINGS, SURFACE AND SUBSURFACE SOIL SAMPLES, AND EXPLORATIONS (PHASE II, 1995)

0 200 400

SCALE: 1 INCH = 400 FEET

BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT, STUDY AREA 2
HERNDON ANNEX
NAVAL TRAINING CENTER
ORLANDO, FLORIDA

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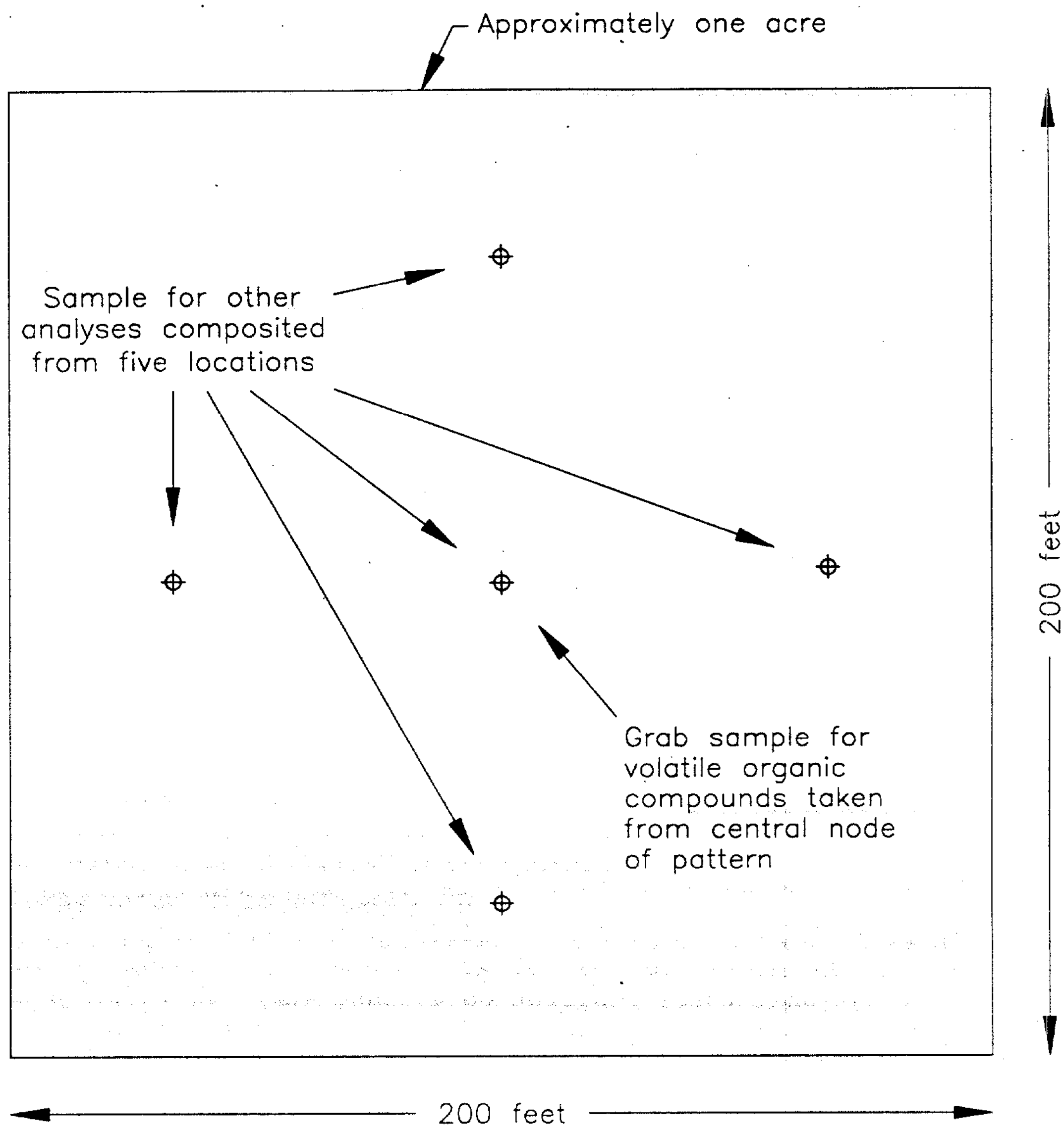

FIGURE 3-2
COMPOSITE PATTERN FOR SURFACE SOIL SAMPLING

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BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT, STUDY AREA 2
HERNDON ANNEX
NAVAL TRAINING CENTER
ORLANDO, FLORIDA

A DPT rig is a box truck equipped with a hydraulic press for pushing instruments into the subsurface. On-board computer systems are linked to a cone penetrometer attached to the tip of the leading push rod, and real-time soil responses are recorded on logs as a function of depth. Tip resistance, pore pressure, and sleeve friction values, and ratios thereof, are used to classify the soil type. The CPT logs show the depths at which any of these changes occur. The CPT logs can be correlated with the soil boring logs of the continuously sampled, existing, deep monitoring wells to refine our understanding of the stratigraphy of the surficial aquifer. CPT data can also be used to select discrete depth intervals to sample the groundwater at permeable layers. Sampling at multiple depths will enable investigations to delineate the plume vertically.

To collect groundwater samples, a discrete sampler is attached to the tip of the leading push rod, which has a shielded screened section that becomes exposed to the groundwater when the push rods are retracted about 2 feet. The groundwater passes through the screen and then enters into either a stainless steel chamber that is retrieved and decanted, or the center of the push rods themselves and collected with a small diameter bailer. Each exploration was abandoned by pumping bentonite grout through uninstrumented push rods.

Groundwater samples were collected at several depths per DPT location. The number of samples and sample depths per DPT location were determined in the field from the lithologic interpretations of the CPT logs. At each DPT sampling location, instrumentation was advanced into the Hawthorn Group. The sample intervals were determined by inspecting the CPT logs. The DPT rig was repositioned approximately 5 to 6 feet away from the CPT location in the upgradient direction to advance the discrete sampler to collect groundwater samples at the desired depths.

One objective for this program was to determine if benzene contamination was emanating from an on-site or an off-site source. The DPT program was initiated at Herndon Annex on May 15, 1995, and was completed on May 25, 1995. The program included 12 CPTs (one of which refused at shallow depth) to permit the evaluation of the local stratigraphy and determine the best depths from which to obtain water samples. The program also included the collection of 29 water samples from depths ranging from 17 to 64 feet bls. A field gas chromatograph (GC) was used to provide near real-time evaluation of groundwater contaminants. Table 3-1 summarizes the locations, total exploration depths, and numbers of groundwater samples and their depths for this program. Six samples were also sent to an off-site laboratory to provide CLP TCL VOC data and to confirm the field GC results. These included sample numbers 02P00102, 02P00403, 02P00501, 02P00502, 02P00503, and 02P00903. A summary of positive detections for the confirmation samples is provided in Table E-1 of Appendix E. The report of all CPTs is included in Appendix F.

3.2 RESULTS - PHASE II.

3.2.1 Deep Groundwater and Subsurface Soil Sampling (February 1995)

Calcium, copper, manganese, and mercury were detected above background screening values in well OLD0209A, and zinc was detected above background screening concentrations in well OLD0211A. None of the concentrations exceeded FDEP GCTLs. Phenanthrene was detected in well OLD0211A, also below the FDEP GCTL. In the deep wells (OLD0207C, OLD0208C, and OLD0210C) arsenic, barium, beryllium, iron, magnesium,

Table 3-1
Summary of Direct-Push Technology Surveys,
Phase II, Study Area 2

Base Realignment and Closure
Environmental Site Screening Report
Study Area 2, Herndon Annex
Naval Training Center
Orlando, Florida

Activity	Location	Depth of Investigation (feet bls)	Groundwater Sampling Interval (feet bls)
Cone Penetrometer Test and Groundwater Screening			
	02P001	80	34, 45, 56
	02P002	80	17, 41, 59
	02P003	18 (refusal)	18
	02P004	80	19, 41, 64
	02P005	80	15, 41, 61
	02P006	80	17, 27, 57
	02P007	80	24, 57
	02P008	80	33, 49
	02P009	80	29, 39, 58
	02P010	17 (refusal)	(no samples taken)
	02P011	80	23, 44, 61
	02P012	80	26, 43, 54

Note: bls = below land surface.

manganese, and zinc were detected at concentrations above background. Iron concentrations ranged between 1,450 and 2,150 milligrams per liter (mg/ℓ), exceeding the FDEP GCTL secondary standard of 300 mg/ℓ. Manganese in OLD0207C (140 mg/ℓ) exceeded the FDEP GCTL secondary standard of 50 mg/ℓ.

Benzene was detected in deep wells OLD0208C and OLD0210C at 21D μg/ℓ and 32D μg/ℓ, respectively, exceeding both the FDEP GCTL primary standard of 1 μg/ℓ and the Federal maximum contaminant level (MCL) of 5 μg/ℓ. Cis-1,2-dichloroethene (DCE), ethylbenzene, and xylenes were also detected in the deep groundwater, but at concentrations well below FDEP GCTLs.

Beryllium, calcium, copper, mercury, and vanadium were detected above background screening concentrations at various locations, in subsurface soil, but all concentrations were below the corresponding residential RBC. Acetone was detected in borings 02B009 and 02B011, and toluene was detected in boring 02B007. Neither compound was present above the corresponding residential RBCs. SCTL leaching concentrations do not apply, as neither compound was detected in groundwater.

Calcium, copper, manganese, antimony, and zinc were detected above background screening values in groundwater from shallow wells OLD0201A and OLD0205A. With the exception of antimony, all analytes were below the corresponding FDEP GCTLs and tap water RBCs. Antimony was detected at 7.3 μg/ℓ in well OLD0205A, exceeding the FDEP GCTL primary standard and Federal MCL of 6 μg/ℓ.

Bis(2-ethylhexyl)phthalate was detected in wells OLD0201A and OLD0202A and bromodichloromethane and chloroform were detected in well OLD0205A, but all were at concentrations below the FDEP GCTL.

<u>3.2.2 Surface Soil Sampling over Former Landfills (June 1995)</u> A summary of positive detections in surface soil analytical results is presented in Appendix B. A complete summary of surface soil analytical results is presented in Appendix C.

Barium, beryllium, calcium, copper, iron, lead, magnesium, manganese, mercury, thallium, and zinc were detected above background screening values at many of the surface soil sample locations. However, the corresponding SCTL was never exceeded at any location.

Polynuclear aromatic hydrocarbons (PAHs) were detected at surface soil sample location 02S01301; 4,4'-dichlorodiphenyldichloroethene (DDE), -dichlorodiphenyltrichloroethane (DDT), chlordane, and Aroclor-1254 were detected at location 02S01801; and 4,4'-dichlorodiphenyldichloroethane, -DDE, -DDT, and chlordane were detected at location 02S02101. As mentioned in Subsection 2.1.1, sample designations are of the form SSXYYYZZ, where "SS" refers to the study area, "X" refers to the media sampled ("S" in this case is surface soil), "YYY" refers to the sample number, and "ZZ" refers to the sampling episode, where "01" is the first sample taken from that location and depth interval, "02" is the second, and so forth. Toluene was also detected at trace concentrations (maximum 2 J μg/kg) in surface soil samples 02S01601, 02S01801, and 02S02001. Benzo(a)pyrene (700 μg/kg) and dibenz(a,h)anthracene (190 J μg/kg) at 02S01301 exceeded both the SCTL and the residential RBC concentrations. No other organics were detected at concentrations above SCTLs or RBCs.

<u>3.2.3 DPT Investigation No. 1 (May/June 1995)</u> As stated earlier in Subsection 3.1.3, 29 water samples were collected from 11 locations at depths ranging from 17 to 64 feet bls. All samples were analyzed for volatiles only on a field GC. Six of the groundwater samples were also submitted to an approved laboratory for CLP TCL VOC laboratory analysis, in accordance with USEPA Level IV DQOs, for confirmation of field GC results. The results of the field GC analyses are presented in Table E-2 of Appendix E. The laboratory confirmation sample analyses are presented in Table E-1 of Appendix E. The report of all CPTs is included in Appendix F.

The two primary contaminants that were detected during the DPT investigation were benzene (maximum concentration of 64 $\mu g/\ell$) and tetrachloroethene (PCE) (maximum of 13 $\mu g/\ell$). Benzene was detected in 7 of the 11 DPT locations from which water samples were acquired and appears to be concentrated between 45 and 60 feet bls in the southeast corner of Herndon Annex. These data indicate that benzene at Herndon Annex is likely originating from an upgradient source located to the south of the Annex. PCE may also be originating from an off-site source, since it was not detected in the eight shallow or three deep wells installed at Herndon Annex. PCE was detected at concentrations of 10 to 13 $\mu g/\ell$ (above the FDEP GCTL primary standard of 3 $\mu g/\ell$) between 50 and 60 feet bls at DPT sample locations 02P008 and 02P009.

A more complete discussion of these findings can be found in Subsection 6.1.2.

4.0 SITE SCREENING - PHASE III (1996)

4.1 FIELD PROGRAM - PHASE III. Although not part of HLA field activities, a TerraProbe℠ investigation was conducted by the U.S. Army Corps of Engineers (USACOE) for the Greater Orlando Aviation Authority (GOAA) on GOAA property immediately south of the southern property line of Herndon Annex. The USACOE study was implemented to determine if a benzene source exists upgradient (southwest) of the Annex. Fieldwork took place in July 1996.

HLA conducted Phase III site screening activities at Herndon Annex in October and November 1996. The objectives of the field effort were to collect additional groundwater samples and hydrogeologic data for further characterization of groundwater quality in the deeper portion of the surficial aquifer both on and off site of the Herndon Annex property. Groundwater quality data were collected in the areas immediately upgradient of those areas of the Herndon Annex where VOCs were detected in groundwater from the deep part of the surficial aquifer during the previous screening investigations. Data were also collected along the eastern property line to evaluate groundwater quality along the downgradient edge of the property. Additional lithologic and groundwater flow data were collected and incorporated into the existing data base in order to refine the hydrogeological conceptual model of the study area.

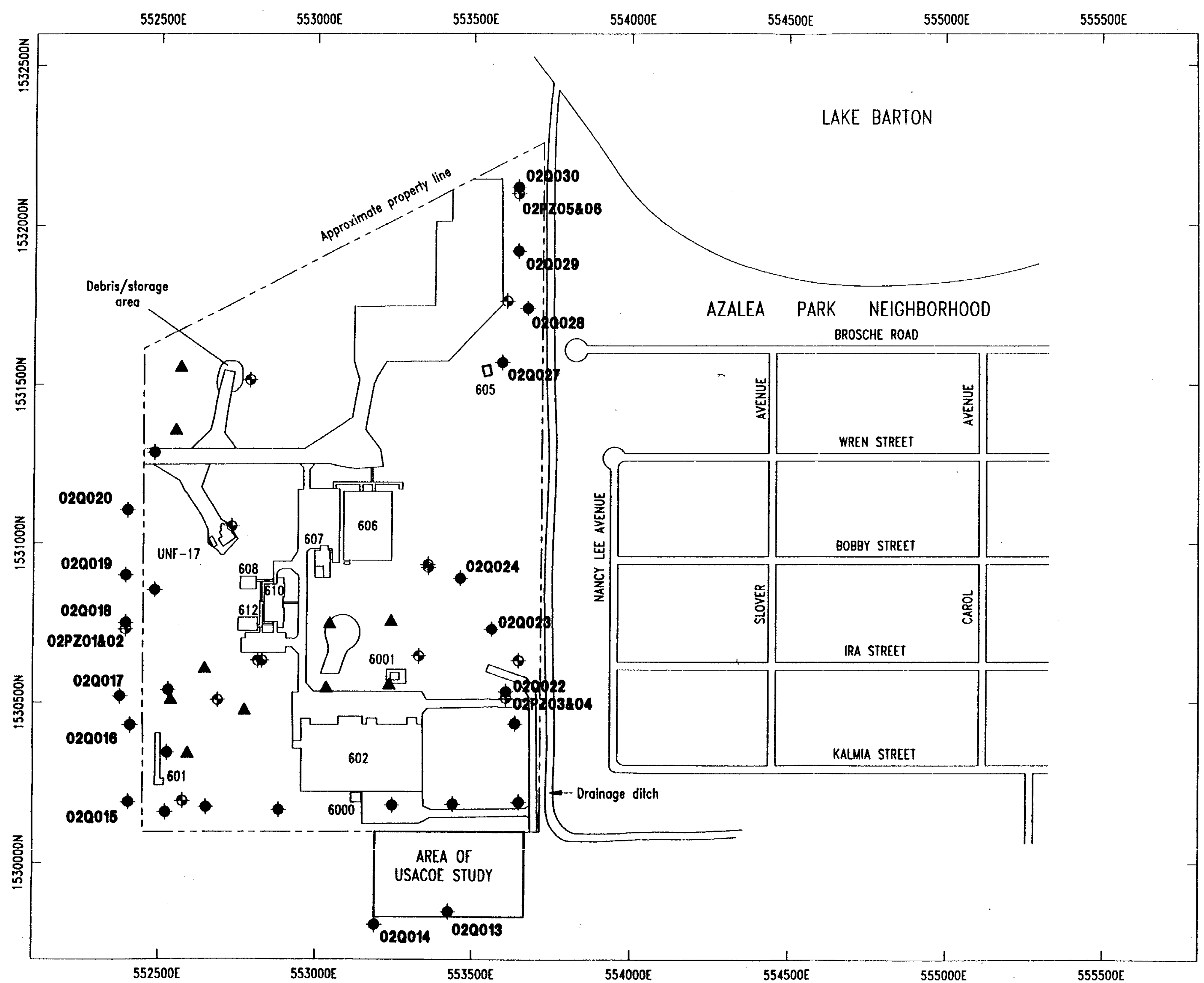
To accomplish the objectives of the investigation, the following activities were performed:

- piezometer installation
- CPT
- DPT groundwater sampling

4.1.1 USACOE Study (July 1996) A groundwater screening study was conducted in July 1996 by the USACOE on a portion of Executive Airport property located between the southern Herndon Annex property line and the East-West Expressway. The study was initiated to investigate groundwater quality upgradient of the Herndon Annex. Sample collection, which consisted of the collection of 40 water samples at 20 locations, was limited to a depth range of up to 40 feet bls. The general location of the USACOE study is indicated on Figure 4-1.

4.1.2 Piezometer Cluster Installation (October 1996) Piezometer clusters were installed in October 1996 at three locations to supplement water-level data collected for the shallow and deep portions of the surficial aquifer from existing monitoring wells (Figure 4-1). Each cluster consisted of a shallow and a deep piezometer. The DPT rig was used to push temporary casing to the desired depth. The piezometers, all with prepacked bentonite seals, were inserted into the casing and the casing was then retracted. The annular space was grouted to ground surface after the casing was removed from the borehole. The top-of-casing elevation for each piezometer was determined. Table 4-1 summarizes the screened intervals for these explorations.

4.1.3 DPT Investigation No. 2 (October 1996) A second DPT investigation took place between October 21 and November 2, 1996. Two CPT soundings (02Q014 and 02Q030) were advanced to provide additional lithologic and hydrogeologic data beyond the extent of the previous screening investigation. CPT sounding 02Q030 was located in the northeast corner of the study area, and 02Q014 was on GOAA



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LEGEND

	Phase I or Phase II soil boring and monitoring well location and designation (see Figures 2-2 and 3-1 for designations)
02Q024	Phase II direct-push technology exploration/sampling location and designation
	Phase I or Phase II direct-push technology exploration/sampling location and designation (see Figures 2-2 and 3-1 for designations)
	Surface soil sampling location and designation
02PZ01	Piezometer location and designation
DPT	Direct-push technology
NAD	North American Datum
USACOE	United States Army Corps of Engineers

NOTES:

Grid shown is Florida State Plane Coordinate System, East Zone (0901) referenced to NAD 1983-98.

0 200 400

SCALE: 1 INCH = 400 FEET

FIGURE 4-1
LOCATION PLAN, USACOE GROUNDWATER STUDY, PIEZOMETER CLUSTER INSTALLATION, AND DPT EXPLORATIONS (PHASE III, 1996)

BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT, STUDY AREA 2 HERNDON ANNEX NAVAL TRAINING CENTER ORLANDO, FLORIDA

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Table 4-1
Summary of Piezometer Installations,
Phase III, Study Area 2

Base Realignment and Closure
Environmental Site Screening Report
Study Area 2, Herndon Annex
Naval Training Center
Orlando, Florida

Activity	Location	Screened Interval (bls)
Piezometer Installation		
	02PZ01A	8.5-18.5
	02PZ02C	55-60
	02PZ03A	20-30
	02PZ04C	55-60
	02PZ05A	10-20
	02PZ06C	55-60

Note: bls = below land surface.

property, south of the Herndon Annex property line. Data acquired from these locations were incorporated into the site-conceptual model and were used in the selection of groundwater sampling intervals. Table 4-2 summarizes the field activities and sampling depths for this investigation.

Groundwater samples were collected from 15 locations during the Phase III investigation. A DPT discrete sampler was used to collect samples from discrete 1-foot sampling horizons. Two of the sample locations, 02Q013 and 02Q014, were south of Herndon Annex in the area of the USACOE study. The samples were used to provide upgradient water quality data from the deeper intervals of the surficial aquifer not sampled by USACOE. Groundwater samples were collected from six locations (02Q015 through 02Q020) on GOAA property west of the boundary of Herndon Annex. These locations were selected to evaluate the potential for migration from off-site sources onto Herndon Annex. Additional samples (02Q022 through 02Q024, and 02Q027 through 02Q030) were collected from seven locations inside the eastern boundary of Herndon Annex to determine groundwater quality along the downgradient portion of the site.

All groundwater field screening samples were submitted to an approved laboratory for analysis of VOCs by USEPA Method 524.2, in accordance with USEPA Level IV DQOs.

4.2 RESULTS - PHASE III.

4.2.1 USACOE Study (June 1996) Trace concentrations (less than 1 $\mu g/\ell$) of benzene, PCE and trichloroethene (TCE) were detected. None of the collected samples indicated the presence of any compound in excess of regulatory criteria. The study was inconclusive, however, because most of the previous benzene and PCE detections in Herndon Annex groundwater were from 50 to 60 feet bls.

4.2.2 Piezometer Cluster Installation (October 1996) Three pairs of piezometers were installed as part of this investigation in portions of the site where

Table 4-2
Summary of Direct-Push Technology Surveys,
Phase III, Study Area 2

Base Realignment and Closure
Environmental Site Screening Report
Study Area 2, Herndon Annex
Naval Training Center
Orlando, Florida

Activity	Location	Depth of Investigation (feet bls)	Groundwater Sampling Interval (feet bls)
Cone Penetrometer Test and Groundwater Screening			
	02Q014	67	
	02Q030	80	
Groundwater Screening			
	02Q013	61	41, 51, 61
	02Q014	61	41, 51, 61
	02Q015	61	41, 51, 61
	02Q016	61	41, 51, 61
	02Q017	61	41, 51, 61
	02Q018	51	41, 51
	02Q019	61	41, 51, 61
	02Q020	61	41, 51, 61
	02Q021	--	(deleted, no access)
	02Q022	61	41, 51. 61
	02Q023	51	51
	02Q024	56	46, 56
	02Q025	--	(deleted, no samples)
	02Q026	--	(deleted, no samples)
	02Q027	60	51
	02Q028	61	46, 61
	02Q029	62	48.5, 62
	02Q030	61	41, 54, 61

Notes: bls = below land surface.
-- = not applicable.

groundwater flow conditions were not well understood (02PZ01A through 02PZ06C, Figure 4-1). As was noted earlier, the "A" designation indicates that the piezometer (or monitoring well) is screened in the shallowest portion of the surficial aquifer. "B" and "C" designations refer to piezometers or wells that have been completed in the intermediate ("B") and deep ("C") portions of the surficial aquifer. Each piezometer pair consisted of a piezometer installed near the water table ("A" designation) and another installed and sealed near the top of the Hawthorn Group at the base of the surficial aquifer ("C" designation). Data from the piezometer pairs were combined with three monitoring well pairs (OLD0202A and OLD0207C, OLD0208C and OLD0209A, and OLD0210C and OLD0211A) installed during Phases I and II to evaluate hydrogeologic conditions at the site. Water-level data taken in November 1996 indicated that groundwater flow in the shallow portion of the surficial aquifer at the site is generally to the northeast, towards Lake Barton. The groundwater flow direction in the deep surficial aquifer is similar. The horizontal groundwater gradient is approximately 0.015 foot per foot throughout the surficial aquifer at the site.

The head differences between five of the six well or piezometer clusters shows a downward potential (Table 4-3). Data collected at the piezometer cluster 02PZ03A/02PZ04C indicate an upward potential. HLA attributes this condition to the proximity of the drainage ditch several tens of feet to the east. A more complete discussion of groundwater flow can be found in Subsection 6.1.3.

Table 4-3
Water-Level Elevation Data,
November 11, 1996

Base Realignment and Closure
Environmental Site Screening Report
Study Area 2, Herndon Annex
Naval Training Center
Orlando, Florida

Location	Screened Interval (feet bls)	Top-of-Casing Elevation (feet above msl)	Depth to Water (feet)	Water Elevation (feet above msl)	Vertical Head Difference (feet) Upward/Downward
02PZ01A	8.5-18.5	117.20	10.50	106.70	
02PZ02C	55-60	120.22	17.38	102.84	3.86 Down
02PZ03A	20-30	111.75	11.73	100.02	
02PZ04C	55-60	112.20	9.95	102.25	2.23 Up
02PZ05A	10-20	105.64	12.14	93.50	
02PZ06C	55-60	105.42	12.34	93.08	0.42 Down
OLD0202A	3-13	111.27	8.64	102.63	
OLD0207C	58-63	111.52	12.60	98.92	3.71 Down
OLD0209A	5-15	112.34	8.00	104.34	
OLD0208C	60-65	112.31	8.41	103.90	0.44 Down
OLD0211A	5-15	107.14	6.20	100.94	
OLD0210C	52-57	106.90	9.41	97.48	3.46 Down

Notes: Water-level measurements collected on November 11, 1996.

bls = below land surface.
msl = mean sea level.

4.2.3 <u>DPT Investigation No. 2 (October 1996)</u> Groundwater analytical results were compared to (1) FDEP's GCTLs; (2) USEPA MCLs; and (3) USEPA Region III (RBCs).

The following organic compounds were detected at concentrations above regulatory criteria in groundwater samples collected during the Phase III investigation: benzene, ethylbenzene, xylene, 1,1,2,2-tetrachloroethane (PCA), trimethylbenzene, isopropylbenzene, PCE, and TCE. A summary of positive detections in groundwater analytical results for all of the field screening samples is presented in Table E-1, Appendix E.

Benzene was detected at or above the Florida MCL (1 μg/ℓ) in 10 groundwater samples from 7 DPT locations: 02Q019, 02Q020, 02Q022, 02Q023, 02Q024, 02Q028, and 02Q029. Samples 02Q019 and 02Q020 were collected on GOAA property west of Herndon Annex. Both samples were from the 60 to 61 feet bls interval and had benzene concentrations of 1 μg/ℓ. The remaining samples where benzene was detected were collected on the eastern side of Herndon Annex. Sample depths ranged from 40 to 61 feet bls. Benzene concentrations ranged from 20 to 200 μg/ℓ.

The cone penetrometer test results are presented in Appendix F.

The ethylbenzene concentration in sample 02Q02201 was 38 μg/ℓ, exceeding the FDEP GCTL secondary standard. This concentration is below the USEPA tap water RBC of 1,300 μg/ℓ.

The total xylene concentration in sample 02Q02201 was 160 μg/ℓ, exceeding the FDEP GCTL secondary standard of 20 μg/ℓ (the USEPA tap water RBC for xylene is 12,000 μg/ℓ).

PCA was detected above the FDEP GCTL (0.5 μg/ℓ) and the USEPA RBC for tap water (0.052 μg/ℓ) in four samples from four locations. One sample (02Q01403) was collected at a depth of 60 to 61 feet bls on GOAA property south of Herndon Annex and had a PCA concentration of 2 μg/ℓ. Three samples from the east side of Herndon Annex (02Q02201, 02Q02402, and 02Q02901) were collected from 40 to 62 feet bls and had PCA concentrations of from 1 to 2 μg/ℓ. This compound had not been previously detected at Herndon Annex.

Two isomers of trimethylbenzene (1,2,4- and 1,3,5-) were detected in sample 02Q01403, collected from 60 to 61 feet bls. The concentration of 1,2,4-trimethylbenzene was 18 μg/ℓ, exceeding the secondary FDEP GCTL of 10 μg/ℓ for total trimethylbenzenes. The concentration of 1,3,5-trimethylbenzene was 4 μg/ℓ, which is below the GCTL of 10 μg/ℓ. Trimethylbenzene had not been detected during the previous investigation activities.

Isopropylbenzene was detected in three samples (02Q01402, 02Q02201, and 02Q02301) at concentrations above the secondary FDEP GCTL (which is 0.8 μg/ℓ). Sample 02Q01402, collected from 50 to 51 feet bls on GOAA property south of the Herndon Annex, had an isopropylbenzene concentration of 2 μg/ℓ. No other compounds exceeded guidance values from this sample. Two samples from the eastern part of Herndon Annex (02Q02201 and 02Q02301) had isopropylbenzene concentrations of 23 and 26 μg/ℓ, respectively. Benzene concentrations in both these samples exceeded 100 μg/ℓ. Isopropylbenzene had not been detected during previous investigation activities.

PCE was detected in sample 02Q01303 at a concentration of 5 $\mu g/\ell$, which is above the Florida MCL (3 $\mu g/\ell$). The sample was collected from 60 to 61 feet bls on GOAA property south of Herndon Annex. PCE was also detected at 2 $\mu g/\ell$ in samples from location 02Q014.

TCE concentrations exceeded Florida MCLs in four samples collected from three locations. One sample, 02Q01303, collected from 60 to 61 feet bls on GOAA property south of Herndon Annex, had a TCE concentration of 4 $\mu g/\ell$, versus a Florida MCL of 3 $\mu g/\ell$. The PCE concentration in this sample was 5 $\mu g/\ell$, versus a Florida MCL of 3 $\mu g/\ell$. Two samples from the 02Q022 location, on the east side of Herndon Annex, collected from 50 to 51 and 60 to 61 feet bls, had TCE concentrations of 3 and 4 $\mu g/\ell$, respectively. Sample 02Q2301, from the 50 to 51 feet bls interval, had a TCE concentration of 4 $\mu g/\ell$.

The primary compounds with concentrations above Florida MCLs detected during the site screening investigations were benzene (maximum concentration of 200 $\mu g/\ell$) and PCE/TCE (10 $\mu g/\ell$ and 5 $\mu g/\ell$, respectively). From a depth of 0 to 39 feet bls, detections exceeding the guidance values for the primary compounds occurred at only 2 of 20 sampling locations. Of the 20 samples collected from 40 to 50 feet bls, 5 had benzene concentrations and 1 had PCE concentrations exceeding Florida MCLs. All of these sampling locations were along the eastern edge of Herndon Annex. Including monitoring wells and DPT sampling, 27 groundwater samples were collected from greater than 50 feet bls at the site. Thirteen of these samples had benzene concentrations exceeding Florida MCLs, two had PCE detections, and five had TCE detections above Florida MCLs.

The low number of positive detections of VOCs in both DPT and monitoring well groundwater samples in the interval above 40 feet bls would seem to limit the likelihood of a surface release on Herndon Annex. Two potential sources on the site, an aboveground storage tank (AST) at Building 602 and an underground storage tank (UST) at Building 607 were both removed; the AST was approved for clean closure, whereas the UST required a limited soil removal, which has been completed, and the contamination assessment report is being reviewed by the FDEP [ABB-ES, 1995b; ABB-ES, 1996]). However, detections of the primary compounds from 40 to 50 feet bls are limited to samples collected on the eastern side of Herndon Annex. This indicates that a contaminant plume from an off-site source may have already moved through the site. The upward vertical gradient at the area of the 02PZ03A/02PZ04C cluster may bring contaminants upward from lower depths in this area. The primary compounds are most widely distributed from deeper than 50 feet bls to the top of the Hawthorn Group at the site. Data from upgradient locations indicate groundwater with low concentrations of PCE or TCE may be migrating onto the southeast corner of Herndon Annex from off site. Small concentrations of benzene were also detected along the western margin of the site. The site screening data are consistent with a benzene plume that has migrated onto Herndon Annex from an off-site source, and whose source is depleted. Further attempts to define the source(s) of contamination would very likely be futile.

A summary of all DPT results can be found in Subsection 6.1.3.

5.0 SITE SCREENING - PHASE IV (1997)

Site screening activities in 1997 were focused on further delineation of the benzene plume at Herndon Annex, and these activities eventually led to investigations in the Azalea Park Neighborhood to the east. Groundwater screening was accomplished with DPT, and screening results were confirmed with the installation and sampling of permanent monitoring wells. Specific activities included the following:

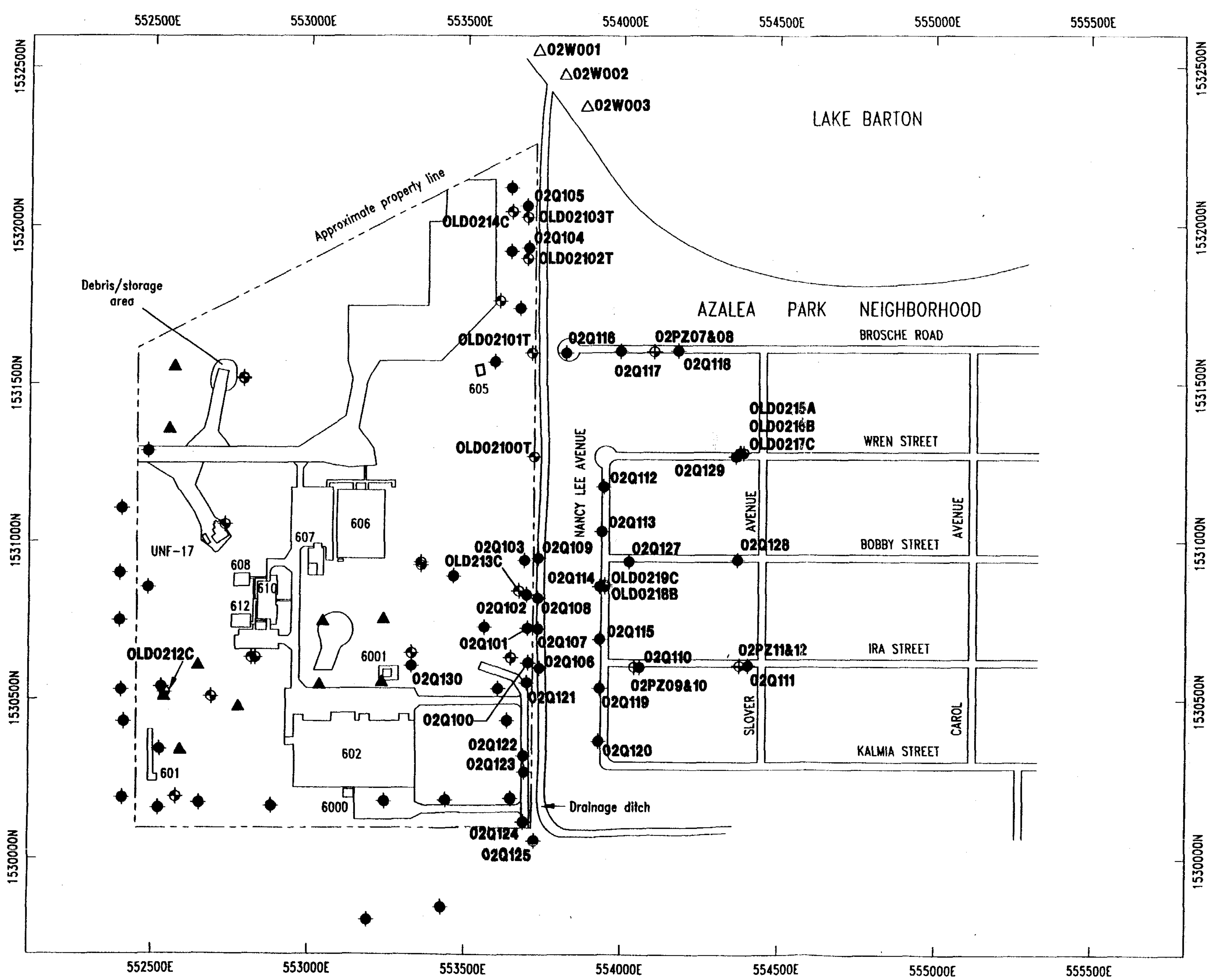
- Surface water sampling in Lake Barton to determine surface water quality downgradient from Herndon Annex
- DPT groundwater screening east of the east fenceline at Herndon Annex; DPT groundwater screening in the Azalea Park Neighborhood; installation of piezometer clusters in Azalea Park
- Drive point installation and sampling in the drainage ditch east of Herndon; temporary well installation and sampling
- Sampling of existing monitoring wells
- Deep monitoring well installation and sampling at Herndon Annex; installation and sampling of monitoring wells in Azalea Park

5.1 FIELD PROGRAM - PHASE IV.

5.1.1 Surface Water Sampling, Lake Barton. On April 11, 1997, HLA collected three surface water samples in Lake Barton approximately 100 feet from the northeast corner of Herndon Annex in 6 to 10 feet of water (Figure 5-1). The objective for this sampling was to determine if groundwater contamination had reached Lake Barton at concentrations that exceed surface water standards. The samples were collected approximately halfway between the water surface and the lake bottom. The samples were submitted for low detection level CLP TCL analysis of VOCs.

5.1.2 DPT Investigation No. 3 A third DPT Investigation took place as two separate field programs in July and September, 1997. The first field program (in July, Paragraph 5.1.2.1, below) took place along the east fenceline of Herndon Annex to determine if the benzene plume extends to a point just west of the deep drainage ditch between Herndon Annex and the Azalea Park Neighborhood. The second field program (September, Paragraph 5.1.2.2, below) took place along streets in the Azalea Park Neighborhood after benzene contamination had been confirmed along the east fenceline of Herndon Annex.

5.1.2.1 **DPT Investigation, July 1997** Groundwater screening with DPT took place along the east fenceline of Herndon Annex between July 21 and July 25, 1997. The purpose for the DPT investigation was to determine if the benzene plume mapped during prior site screening activities extended as far east as the deep drainage ditch between Herndon Annex and the Azalea Park Neighborhood. Screening took place at six locations (02Q100 through 02Q105, Figure 5-1), with samples from three to four depth intervals at each location. The groundwater samples were submitted to an approved laboratory for CLP TCL VOC laboratory analysis, in



LEGEND

- Phase I, II, or III soil boring and monitoring well location and designation (see Figures 2-2, 3-1, and 4-1 for designations)
- Phase I, II, or III direct-push technology exploration/sampling location and designation (see Figures 2-2, 3-1, and 4-1 for designations)
- OLD0212C — Soil boring and monitoring well location and designation
- 02Q109 — Phase IV direct-push technology exploration/sampling location and designation
- Surface soil sampling location and designation
- 02PZ07 — Piezometer location and designation
- 02W001 — Surface water sampling location and designation
- NAD — North American Datum

NOTES:

Grid shown is Florida State Plane Coordinate System, East Zone (0901) referenced to NAD 1983-98.

FIGURE 5-1
LOCATION PLAN, SURFACE WATER SAMPLING, CONE PENETROMETER TEST INVESTIGATION NO. 3, PIEZOMETER CLUSTER INSTALLATION, AND OFF-SITE SENTINEL WELL INSTALLATION (PHASE IV, 1997)

BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT, STUDY AREA 2 HERNDON ANNEX NAVAL TRAINING CENTER ORLANDO, FLORIDA

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accordance with USEPA Level IV DQOs. Table 5-1 presents the sampling depths at each location.

5.1.2.2 DPT Investigation, September 1997 Groundwater screening with DPT took place in the Azalea Park Neighborhood between September 9 and September 24, 1997. The purpose for the DPT investigation was to determine if the benzene plume confirmed in the July 1997 DPT investigation along the east fenceline of Herndon Annex extended beyond the deep drainage ditch and into the Azalea Park Neighborhood. Cone penetrometer tests took place at 19 locations (02Q110 through 02Q130, excluding locations 02Q125 and 02Q126). Groundwater samples were obtained from 20 locations (02Q110 through 02Q130, excluding location 02Q126), with samples from one to four depth intervals at each location (Figure 5-1). The groundwater samples were submitted to an approved laboratory for CLP TCL VOC laboratory analysis, in accordance with USEPA Level IV DQOs. Table 5-1 presents the sampling depths at each location.

5.1.3 Piezometer Cluster Installation (September 1997) In order to better characterize local groundwater flow under the Azalea Park Neighborhood, three piezometer clusters were installed with the DPT rig between September 6 and September 24, 1997 (02PZ07C & 02PZ08A, 02PZ09C & 02PZ10A, and 02PZ11C & 02PZ12A, Figure 5-1 and Table 5-2). Each cluster consisted of a shallow (20 to 25 feet bls and deep (55 feet bls) piezometer. The shallow piezometers were installed with a 10-foot-long screened section straddling the water table. Deep piezometers were installed with a 5-foot screen near the base of the surficial aquifer. Table 5-2 presents the screened intervals at each piezometer location.

5.1.4 Drive Point and Temporary Well Installation (September 1997) Four drive points (02Q106 through 02Q109, Figure 5-1) were installed along the base of the deep drainage ditch between Herndon Annex and the Azalea Park Neighborhood between July 28 and July 30, 1997. The purpose for the drive points was to determine if benzene-contaminated groundwater was upwelling into the ditch. The drive points were installed to a depth of three feet below the base of the ditch with a two-foot-long 0.010-inch slotted screen section.

In addition, four hand-augered temporary wells (OLD02100T through OLD02103T, Figure 5-1) were installed on July 30, 1997, along the east fenceline at Herndon Annex. The purpose for these temporary wells was to further delineate the benzene plume. The wells all had a five-foot screened section (0.010-inch PVC screen), and the bottom of the screened section varied from 10.3 to 12.6 feet bls.

5.1.5 Sampling of Existing Monitoring Wells Many of the existing monitoring wells were sampled during the period of August 6 to August 12, 1997. The purpose for the sampling was to determine if concentrations had changed since the initial sampling events as much as three years earlier and if groundwater parameters are favorable for promoting the natural attenuation of fuel-related contaminants. The wells that were sampled were OLDOR05A, OLD0201A, OLD0204A, OLD0205A, OLD0206A, OLD0208C, OLD0209A, OLD0210C, and OLD0211A. Monitoring wells OLD0202A and OLD0207C were not sampled as they were thought to have been covered with asphalt and soil piles and were assumed to have been destroyed. It later turned out that the asphalt and soil piles were near the wells, and the well locations were hidden by active anthills. Well OLD0203A was not sampled because the water table was below the screened interval.

Table 5-1
Summary of Direct-Push Technology Surveys,
Phase IV, Study Area 2

Base Realignment and Closure
Environmental Site Screening Report
Study Area 2, Herndon Annex
Naval Training Center
Orlando, Florida

Activity	Location	Depth of Investigation (feet bls)	Groundwater Sampling Interval (feet bls)
CPT & Groundwater Screening			
	02Q100	80	33, 43, 53
	02Q101	80	33, 43, 48, 53
	02Q102	80	33, 40, 46, 53
	02Q103	80	33, 40, 46, 52
	02Q104	77	33, 38, 43, 48
	02Q105	77	28, 34, 41, 47
	02Q110	53	23, 53
	02Q111	53	23, 53
	02Q112	60	24, 33, 43, 53
	02Q113	60	23, 33, 43, 53
	02Q114	60	23, 33, 43, 50
	02Q115	60	23, 33, 43, 53
	02Q116	60	23, 33, 43, 56
	02Q117	60	23, 33, 43, 46
	02Q118	60	18, 25, 33, 41
	02Q119	60	23, 33, 43, 53
	02Q120	60	20, 30, 45, 52
	02Q121	60	28, 35, 44, 53
	02Q122	60	20, 33, 46
	02Q123	60	20, 30, 40, 50
	02Q124	60	58
	02Q125	60	23
	02Q126	60	(no samples taken)
	02Q127	60	23, 33, 43, 53
	02Q128	60	20, 27, 36, 44
	02Q129	60	23, 33, 43, 56
	02Q130	60	23, 35, 45, 58

Notes: bls = below land surface.
CPT = cone penetrometer testing.

Table 5-2
Summary of Piezometer Installations, Phase IV, Study Area 2

Base Realignment and Closure
Environmental Site Screening Report
Study Area 2, Herndon Annex
Naval Training Center
Orlando, Florida

Activity	Location	Screened Interval (feet bls)
Piezometer Installation		
	020Z07C	50-55
	02PZ08A	10-20
	02PZ09C	50-55
	02PZ10A	20-25
	P2PZ11C	50-55
	02PZ12A	20-25

Note: bls = below land surface.

Samples were submitted for full suite CLP TCL and TAL laboratory analysis, plus pesticides and polychlorinated biphenyls, along with total petroleum hydrocarbons and explosives analysis, in accordance with USEPA Level IV DQOs. Samples were also analyzed for alkalinity, chloride, dissolved oxygen, dissolved iron (II), nitrate, nitrite, redox potential, pH, temperature, conductivity, sulfate, sulfide, total organic carbon, methane, ethene, and ethane. These parameters are useful in assessing natural attenuation processes that may be reducing the concentrations of fuel-related compounds in groundwater. Due to the turbidity in some wells (OLD0212C, OLD0213C, and OLD0214C), some of the parameters requiring colorimetric techniques were not measured.

<u>5.1.6 Installation of Additional Wells</u> Monitoring wells were installed during two separate mobilizations in August and December 1997. In August, three wells (OLD0212C, OLD0213C, and OLD0214C, Figure 5-1) were installed at Herndon Annex to confirm earlier groundwater screening investigations that concluded there was a benzene plume in the deeper portion of the surficial aquifer. The drilling program took place between August 12 and August 25, 1997. The wells were screened at depths ranging from 48.5 to 62 feet bls. One of the wells, OLD0212C, was installed at location 02P005, where benzene had previously been detected at a concentration of 85 $\mu g/\ell$. Well OLD0213C was installed at location 02P102, where benzene had been detected at a concentration of 98 $\mu g/\ell$. The third well, OLD0214C, was installed in the northeast corner of Herndon Annex downgradient from location 02Q029, where benzene had been detected at a concentration of 40 $\mu g/\ell$.

Five additional wells were installed between December 1 and December 30, 1997, in the Azalea Park Neighborhood (Figure 5-1). The wells were installed as two clusters. The objective of the first cluster (OLD0215A, OLD0216B, and OLD0217C) was to confirm that the benzene plume had not yet reached Wren Street and to act as sentinel wells downgradient from the plume. The second cluster (OLD0218B and OLD0219C) was intended to confirm the presence of a benzene plume near the intersection of Nancy Lee Avenue and Bobby Street. The wells were screened at depths ranging from 15 to 54.5 feet bls.

Boring logs and monitoring well installation diagrams for the five wells are presented in Appendix A. A summary of positive detections in groundwater analytical results is presented in Appendix B. A complete summary of groundwater analytical results is presented in Appendix C.

5.2 RESULTS - PHASE IV.

5.2.1 Surface Water Sampling, Lake Barton The three surface water samples collected parallel to the shoreline of Lake Barton (Subsection 5.1.1) revealed detections of two VOCs. PCE and TCE were detected in sample 02W00101 at 6.2 and 0.20 J $\mu g/\ell$, respectively. Sample 02W00201 had a PCE concentration of 0.23 J $\mu g/\ell$. The estimated "J" concentrations are below the reported detection limit of 0.5 $\mu g/\ell$. For comparison purposes, the primary standards for groundwater in the State of Florida for PCE and TCE are 3 $\mu g/\ell$. The Florida Class III (recreation) surface water standard is 8.85 $\mu g/\ell$ for PCE, and 80.7 $\mu g/\ell$ for TCE.

A summary of positive detections in surface water analytical results is presented in Appendix B. A complete summary of surface water analytical results is presented in Appendix C.

5.2.2 DPT Investigations (July to September 1997) As stated earlier, DPT Investigations took place as two separate field programs in July and September 1997. The results are discussed separately below for each of the DPT mobilizations. Data obtained during all DPT investigations is summarized in Section 6.1, below.

5.2.2.1 **DPT Investigation, July 1997** The first field program consisted of CPT at six locations (02P100 through 02P105), and groundwater sampling from three to four depths at each location. Table E-1 of Appendix E presents the analytical results for each groundwater sample. Appendix F presents the CPT results at each location.

The analytical results of groundwater screening samples indicate that there is benzene contamination in the surficial aquifer along the east fenceline of Herndon Annex. Benzene was detected in 11 of 15 samples in four locations (02P100 through 02P103) along the southern portion of the east fenceline at concentrations ranging from 5 to 152 $\mu g/\ell$. In addition, there were primary standard exceedances at location 02P100 (43 feet bls) of TCE with a concentration of 6.62 $\mu g/\ell$, and at location 02P102 (53 feet bls) of 1,2'-dichloroethane (DCA) with a concentration of 6.05 $\mu g/\ell$. Both of these compounds have a Florida primary standard of 3 $\mu g/\ell$. Both of these samples also had benzene at concentrations of 152 and 98 $\mu g/\ell$, respectively. The remaining two locations (02P104 and 02P105) located along the northern portion of the east fenceline had no detections of benzene or any other volatile contaminants.

A summary of the results of all CPT and groundwater screening for Phases II through IV is included in Section 6.1, below.

5.2.2.2 **DPT Investigation, September 1997** The second field program consisted of CPTs at 19 locations (locations 02Q110 through 02Q120, excluding 02Q125 and 02Q126) and groundwater sampling at 20 locations (locations 02Q110 through 02Q120, excluding 02Q126). Locations 02Q110 through 02Q120 and 02Q127 through 02Q129 are located along the streets of the Azalea Park Neighborhood. Locations

02Q121 through 02Q125 are located along the east fenceline of Herndon Annex, and 02Q130 is located adjacent to well OLD0206A in an area where the deep benzene plume was expected, based on previous screening results. Table E-1 of Appendix E presents the analytical results for each groundwater sample. Appendix F presents the CPT results at each location.

The analytical results of groundwater screening samples indicate that there is benzene contamination in the surficial aquifer in the western portion of the Azalea Park Neighborhood south of Wren Street. The highest benzene concentrations are generally deeper than 40 feet bls under the Neighborhood. Benzene was detected in 21 of 52 samples in 9 locations (02Q110, 02Q112 through 02Q116, 02Q119, 02Q120, and 02Q127) in the Azalea Park Neighborhood at concentrations ranging from 0.6 to 152 $\mu g/\ell$. In addition, there were primary standard exceedances of 1,2-DCA at locations 02Q113 (43 feet bls) and 02Q127 (53 feet bls) with concentrations of 3.81 and 3.96 $\mu g/\ell$, respectively. 1,2-DCA has a Florida primary standard of 3 $\mu g/\ell$. Both of these samples also had benzene at concentrations of 66.3 and 110 $\mu g/\ell$, respectively.

The remaining DPT locations at Herndon Annex (02Q121 through 02Q125 and 02Q130) confirmed the presence of benzene and further delineated the benzene plume.

A summary of the results of all CPT and groundwater screening results for Phases II through IV is included in Section 6.1, below.

<u>5.2.3 Piezometer Cluster Installation (September 1997)</u> Three piezometer clusters were installed by the DPT rig during its second mobilization in the Azalea Park Neighborhood in order to better characterize local groundwater flow. Each cluster consisted of a shallow (15 to 25 feet bls) and deep (55 feet bls) piezometer. One of the clusters (02PZ07C and 02PZ08A) was located along Brosche Road. The other two clusters (02PZ09C and 02PZ10A, and 02PZ11C and 02PZ12A) were installed further south on Ira Street.

The piezometers (along with the monitoring wells in the vicinity) indicate that groundwater flow is northerly toward Lake Barton and that there is a downward hydraulic head difference, which varies from 0.92 foot (at piezometers 02PZ07C and 02PZ08A on Brosche Road) to 5.37 feet (piezometers 02PZ11C and 02PZ12A on Ira Street). The large downward flow potential at the latter piezometer cluster may be due to a perched water table condition. Groundwater flow will be discussed more thoroughly in Subsection 6.1.3, below.

<u>5.2.4 Drive Point and Temporary Well Installation (September 1997)</u> Four shallow drive points (locations 02Q106 through 02Q109) and four hand-augered temporary wells (locations OLD02100T through OLD02103T, and samples 02G10001, 02G10101, and 02G10301) were installed to determine the groundwater quality of water upwelling into the drainage ditch between Herndon Annex and the Azalea Park Neighborhood, and to fill data gaps in shallow groundwater data following the DPT investigation.

Eight groundwater samples were submitted to an approved laboratory for CLP TCL VOC laboratory analysis, in accordance with USEPA Level IV DQOs. Table E-1 of Appendix E presents the analytical results for each groundwater sample collected from the drive point locations. Appendix B presents the summary of positive detections for the temporary well samples. Appendix C presents the complete analytical results for those samples.

Compounds detected in the drive points in the drainage ditch included benzene, cis-1,2-DCE, and methylene chloride. Sample 02Q10701 had the highest benzene concentration (25.2 $\mu g/\ell$), and also had a cis-1,2-DCE concentration of 3.14 $\mu g/\ell$. HLA concluded that a portion of the groundwater plume is upwelling into the deep drainage ditch.

There were no detections of any VOCs in any of the temporary wells. Therefore, there does not appear to be any groundwater contamination in the upper portion of the surficial aquifer along the northern portion of the fenceline east of Herndon Annex.

5.2.5 Sampling of Existing Monitoring Wells, August 1997 An evaluation of natural attenuation at Herndon Annex is based on the limited wet chemistry data obtained at Herndon Annex in August 1997. Only three wells (OLD0204A, OLD0208C, and OLD0210C) had a relatively complete data set, as the other groundwater samples were too turbid for accurate colorimetric field measurements (using Hach field kits). While the chemical data obtained has refined our understanding of the extent of the benzene contamination plume, the evidence of biodegradation occurring at the intermediate depths (greater than 40 feet bls) is contradictory, based on an evaluation of contaminant reductions as a function of time. For example, in well OLD0208C, benzene concentrations increased from 21 $\mu g/\ell$ in 1995 to 35 $\mu g/\ell$ in 1997. Conversely, in well OLD0210C, benzene concentrations decreased from 32 $\mu g/\ell$ in 1995 to 7.6 $\mu g/\ell$ in 1997.

Assessment of the wet chemistry data on three groundwater wells seems to indicate generally favorable conditions for aerobic biodegradation at the shallower depths (dissolved oxygen data at 3.9 mg/ℓ and oxidation-reduction potential of 280.9 millivolts in well OLD0204A). At depths below 40 feet bls, however, conditions that are slightly reducing (as indicated by negative redox potentials and dissolved oxygen readings from 0.82 to 1.85 mg/ℓ) may allow biodegradation to proceed anaerobically through methanogenesis. However, the total organic carbon concentrations are low at these wells (2.9 to 4 mg/ℓ), indicating that there is a limited food source for the native bacteria in the aquifer. Benzene is also a carbon source for microorganisms although the maximum concentration measured in the plume (0.2 mg/ℓ at a DPT location) does not appear to be a significant food source. A treatability study could be completed to evaluate other remedial options, such as enhanced biodegradation. The treatability study would involve providing a direct food source (sugars) to stimulate bacterial growth.

The results of the natural attenuation sampling are presented in Appendix G, Table G-1.

5.2.6 Installation of Additional Wells, August through December 1997 Additional wells installed in August and December 1997 consisted of three deep wells at Herndon Annex and two well clusters in the Azalea Park Neighborhood. The three wells at Herndon Annex (OLD0212C, OLD0213C, and OLD0214C, [Figure 5-1]) were installed to confirm earlier groundwater screening investigations that concluded there was a benzene plume in the deeper portion of the surficial aquifer.

Five wells in two well clusters were installed at the Azalea Park Neighborhood. The first cluster of wells (OLD0218B and OLD0219C) was installed to confirm the presence of the benzene plume near the intersection of Nancy Lee Avenue and Bobby Street. The purpose of the second cluster (OLD0215A, OLD0216B, and OLD0217C) was to verify that the plume had not yet reached Wren Street downgradient from the first cluster. The five wells were screened at depths ranging from 15 to 54.5 feet bls. All shallow wells ("A" designation) were installed with a ten-foot screen straddling the water table. All intermediate and deep wells ("B" and "C" designations, respectively) were installed with a five-foot screen.

Of the three deep wells installed at Herndon Annex, only OLD0213C, in the east-central portion of Herndon Annex, had contamination, with benzene at a concentration of 83 $\mu g/\ell$ (Figure 5-1). This well also had detections of cis-1,2-DCE, TCE, ethylbenzene, and 1,3,5-trimethylbenzene, although not at concentrations of concern. Wells OLD0212C (in the southeast portion of Herndon Annex) and OLD0214C (in the northeast portion of the Annex) did not detect any contaminants at concentrations of concern.

In the first well cluster, benzene was detected in well OLD0219C at a concentration of 53.5 $\mu g/\ell$. Other volatiles were also present at trace concentrations, including cis-1,2-DCE, ethylbenzene, and total xylene. The intermediate well in that cluster, OLD0218B, and all three sentinel wells in the second well cluster, did not detect any contaminants at levels of concern.

6.0 SITE SCREENING - PHASE V (1998)

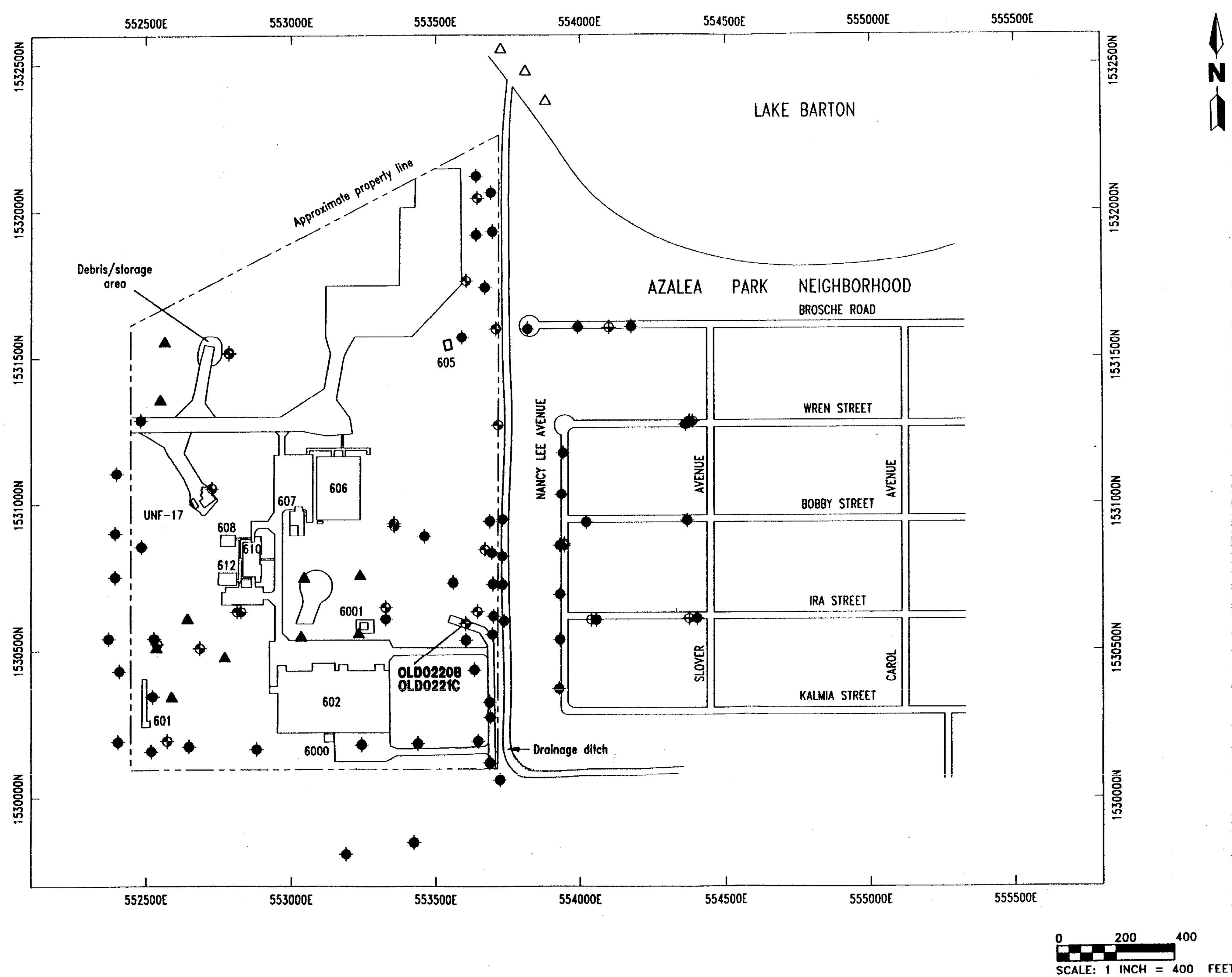
OPT concerns during review of the draft final report for Herndon Annex (ABB-ES, 1998) included a recommendation that two additional monitoring wells be installed (intermediate and deep depth intervals) in the portion of the benzene plume with the highest contaminant concentrations, along with groundwater sampling in all monitoring wells for volatiles and natural attenuation parameters. The wells were installed in the fall of 1998.

6.1 FIELD PROGRAM, PHASE V, INSTALLATION AND SAMPLING OF ADDITIONAL WELLS. Two monitoring wells were installed in October 1998 in the portion of the benzene plume with the highest contaminant concentrations, in accordance with an OPT decision. The two wells were located near DPT sample 02Q022, where benzene was detected at concentrations of 110 and 200 $\mu g/\ell$ at depths of 41 and 61 feet bls, respectively (Figure 6-1). The two wells were designated OLD0220B and OLD0221C, and were installed with a 5-foot screen. Well OLD0220B was screened from 36 to 41 feet bls, and well OLD0221C was screened from 56 to 61 feet bls.

The wells were sampled on November 18 and December 21, 1998. Samples were submitted to an approved laboratory for USEPA Method 8260 VOC laboratory analysis, in accordance with USEPA Level IV DQOs. In addition, groundwater samples were submitted for analysis of light gases (methane, ethene, and ethane). HLA took field measurements of natural attenuation parameters (alkalinity, carbon dioxide, dissolved iron [II and III], dissolved oxygen, nitrate, oxidation reduction potential [ORP], pH, sulfate, sulfide, temperature, and turbidity). These parameters were measured to evaluate whether or not natural attenuation of benzene, toluene, ethylbenzene, and xylenes (BTEX) constituents in the shallow, intermediate, and deep portions of the shallow aquifer is a viable remedial alternative.

6.2 RESULTS, PHASE V, INSTALLATION AND SAMPLING OF ADDITIONAL WELLS. Both wells detected benzene at concentrations exceeding State and Federal maximum contaminant levels. Benzene was detected in OLD0220B and OLD0221C at concentrations of 46 $\mu g/\ell$ and 50 $\mu g/\ell$, respectively (benzene was detected in the duplicate sample at OLD0221C at 56 $\mu g/\ell$). In addition, TCE was detected in both wells at concentrations of from 1.1 to 1.6 $\mu g/\ell$, versus a Florida GCTL of 3 $\mu g/\ell$. There were no other contaminants detected at or above regulatory limits. A summary of positive detections is provided in Appendix B. The complete set of analytical results is included in Appendix C.

Benzene concentrations have all decreased by from 14 to 100 percent from the period August of 1997 to December 1998 (a 12- to 16-month period) in all wells for which there is a history of benzene detections (Appendix B). In no instance was benzene detected in a well that had previously not detected that compound. Based on this documented evidence of contaminant reduction over time, it appears that some aspects of natural attenuation (biodegradation, dispersion, dilution, and volatilization) are working effectively. The natural attenuation parameters (DO, ethane, methane, ORP, etc.) support this observed reduction. This trend is particularly evident when one compares the average concentrations of these geochemical indicators in wells outside (no benzene detections) versus within the defined plume (Appendix G, Table G-2).



LEGEND

⌖	Phase I, II, or III soil boring and monitoring well location and designation (see Figures 2-2, 3-1, and 4-1 for designations)
◆	Phase I, II, or III direct-push technology exploration/sampling location (see Figures 2-2, 3-1, and 4-1 for designations)
OLD0221C ⌖	Soil boring and monitoring well location and designation
◆	Phase IV direct-push technology exploration/sampling location
▲	Surface soil sampling location
⌖	Piezometer location
△	Surface water sampling location
NAD	North American Datum

NOTES:

Grid shown is Florida State Plane Coordinate System, East Zone (0901) referenced to NAD 1983-98.

See Figures 2-2, 3-1, 4-1 and 5-1 for designations of explorations from Phase I, II, III and IV.

FIGURE 6-1
LOCATION PLAN
(PHASE V, 1998)

BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT, STUDY AREA 2 HERNDON ANNEX NAVAL TRAINING CENTER ORLANDO, FLORIDA

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Dissolved oxygen concentrations are statistically 10 percent lower (1.8 versus 2.0 mg/ℓ) in the plume than outside the plume, indicating that oxygen is being depleted in groundwater through aerobic biodegradation. Low concentrations of dissolved oxygen are associated with benzene biodegradation coupled to oxygen reduction. ORP readings within the plume are 30 percent larger (-138.7 millivolts versus -106.2 millivolts), indicating that oxygen and other electron donors are being depleted through aerobic biodegradation. Byproducts of benzene degradation, such as methane, are much higher in the wells within the plume (383.5 μg/ℓ) than the wells outside the plume (186.9 μg/ℓ). Another byproduct, ethane, is detected only in wells where BTEX constituents are present. Other degradation products, such as carbon dioxide and sulfide, are higher within the plume, as would be expected in an environment where natural attenuation of BTEX constituents is taking place. The results of the natural attenuation sampling are presented in Appendix G).

7.0 HERNDON ANNEX, SUMMARY OF RESULTS, CONCLUSIONS AND RECOMMENDATIONS

7.1 SUMMARY OF RESULTS. The results of all site screening activities are summarized and presented in this section. Subsection 7.1.1 contains a discussion on the geology and groundwater flow of Herndon Annex. The discussion is based on the results of the CPT, soil boring logs, and monitoring well and piezometer data.

The results of all soil sampling and analysis are summarized in Subsection 7.1.2.

The results of all groundwater screening by DPT, and sampling and analysis of permanent monitoring wells, is summarized in Subsection 7.1.3.

7.1.1 Geology and Groundwater Flow

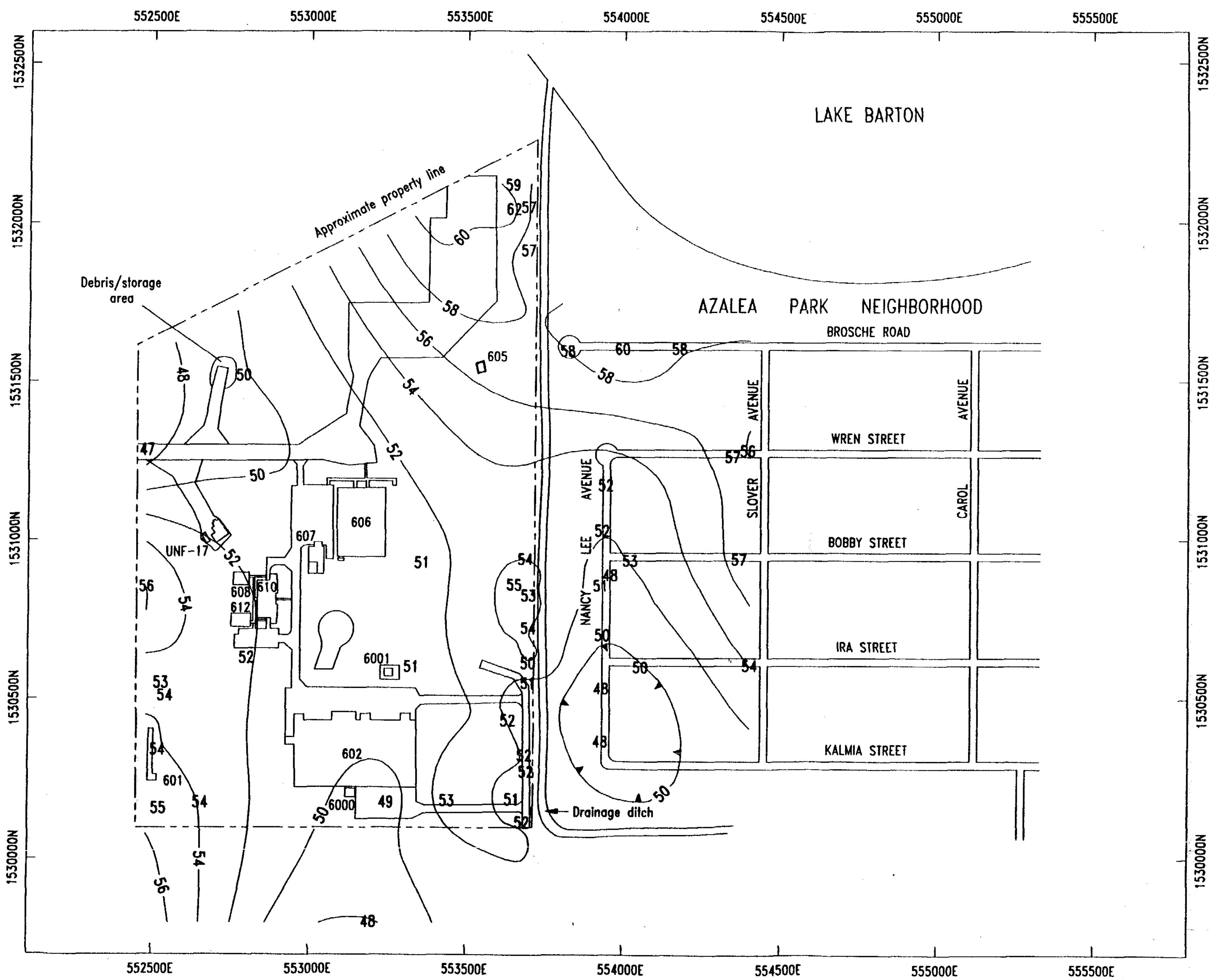
7.1.1.1 **Geology** The surficial aquifer under Herndon Annex and the Azalea Park Neighborhood consists predominantly of quartz sand with varying amounts of silt and clay-sized grains, with some shell fragments. The lithology of these deposits varies both laterally and vertically, and is sometimes interbedded with red iron oxide-cemented fine sand, referred to locally as "hardpan." This hardpan layer was encountered in several DPT explorations, resulting in either refusal at depths of from 17 to 23 feet bls, or additional attempts to penetrate through the layer to deeper strata.

The surficial aquifer extends to depths of up to 62 feet bls in this area and overlies the Hawthorn Group, which is typically described as a gray-green calcareous, phosphatic sandy clay, and clayey sand interbedded with thin discontinuous lenses of phosphatic sand, phosphatic sandy limestone, limestone, and dolostones (Lichtler et al., 1968). The Hawthorn Group in this area is up to 100-feet thick (Lichtler et al., 1968) and is an aquitard, impeding the vertical flow of groundwater between the surficial aquifer and the underlying 1,200-foot-thick carbonate sequence containing the Ocala Group, the Avon Park Limestone, and the Lake City Limestone.

The top of the Hawthorn Group was determined from eight soil borings and 37 CPT logs (Appendices A and F, respectively). The upper surface of the Hawthorn is relatively flat, as can be seen by the elevation contours of the upper Hawthorn, Figure 7-1. The well screen for the deeper monitoring wells ("C"-designation) was positioned just above the first major clay lens of the Hawthorn Group.

7.1.1.2 **Groundwater Flow** Groundwater flow in the upper portion of the surficial aquifer is generally to the northeast under Herndon Annex with an easterly component near the deep drainage ditch. Groundwater flow is northerly with a slight westerly component under Azalea Park (Figure 7-2). The horizontal gradient for the water table under Herndon Annex is approximately 0.01 foot per foot. The horizontal gradient for the deep portions of the surficial aquifer is approximately 0.02 foot per foot.

Permeability tests were completed on six monitoring wells during the week of March 30, 1998. These tests resulted in the determination of average hydraulic conductivity values for the shallow and deep portions of the surficial aquifer of 34.5 and 22.2 feet per day, respectively (Table 7-1). One may obtain an



LEGEND

50	Elevation contour top of Hawthorn Group
49	Spot elevation top of Hawthorn Group (from direct-push technology data)
NAD	North American Datum

NOTES:

Grid shown is Florida State Plane Coordinate System, East Zone (0901) referenced to NAD 1983-98.

Contour interval is 2 feet.

0 200 400

SCALE: 1 INCH = 400 FEET

FIGURE 7-1
TOP OF HAWTHORN GROUP ELEVATION CONTOURS

BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT, STUDY AREA 2 HERNDON ANNEX NAVAL TRAINING CENTER ORLANDO, FLORIDA

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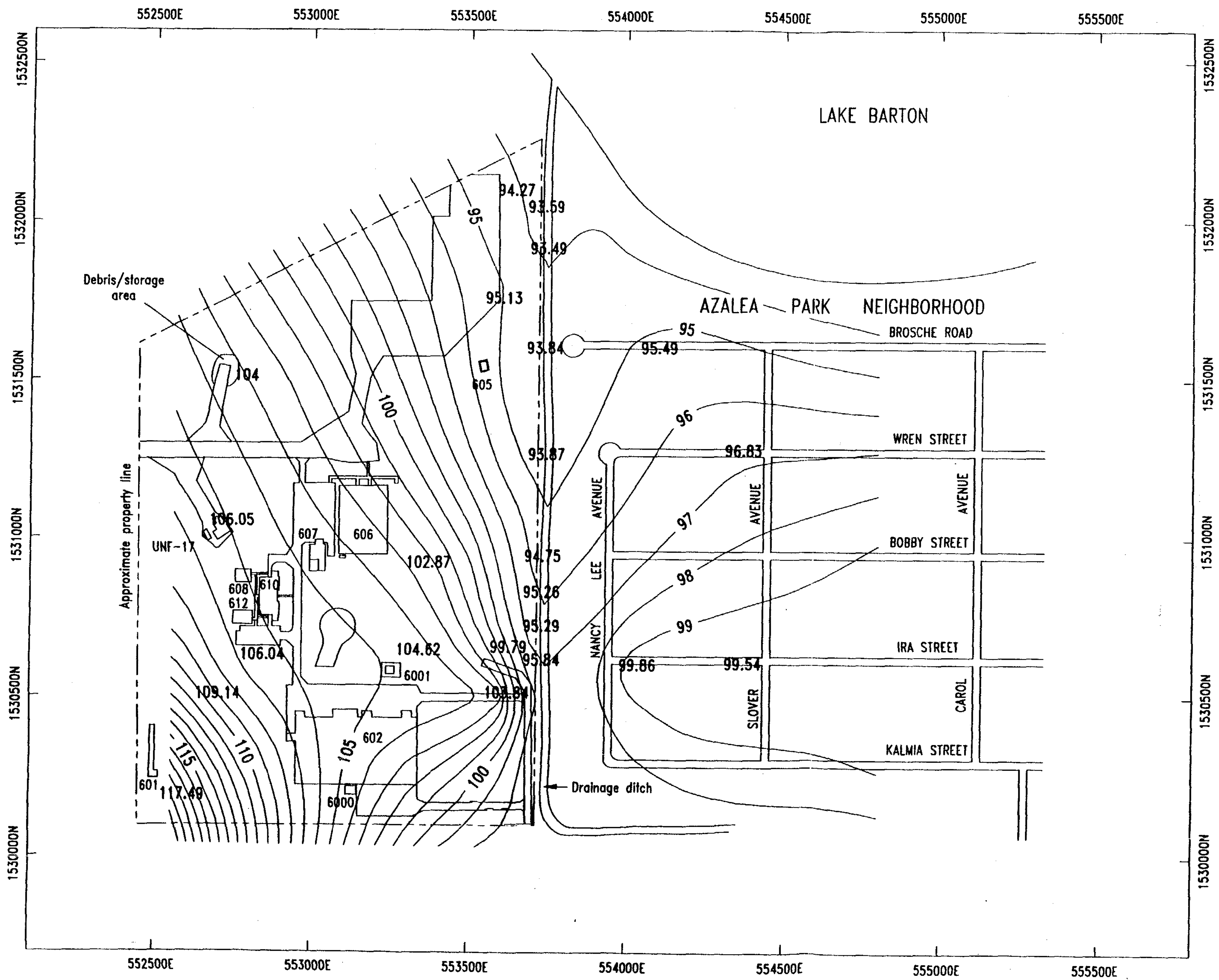

LEGEND

105	Elevation contour of water table
104.62	Spot elevation of water table (measured from monitoring well)
NAD	North American Datum

NOTES:

Grid shown is Florida State Plane Coordinate System, East Zone (0901) referenced to NAD 1983-98.

Contour interval is 1 foot.

0 200 400

SCALE: 1 INCH = 400 FEET

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FIGURE 7-2
GROUNDWATER ELEVATION CONTOURS, SHALLOW PORTION OF SURFICIAL AQUIFER

BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT, STUDY AREA 2
HERNDON ANNEX
NAVAL TRAINING CENTER
ORLANDO, FLORIDA

estimate of the groundwater flow velocity at Herndon Annex by using the relationship:

$$v = \frac{Ki}{n} \quad (1)$$

where: K = the hydraulic conductivity
i = the horizontal gradient
n = the effective porosity of the aquifer, assumed in this case to be 30 percent (0.030)

Table 7-1
Slug Test Hydraulic Conductivity Results

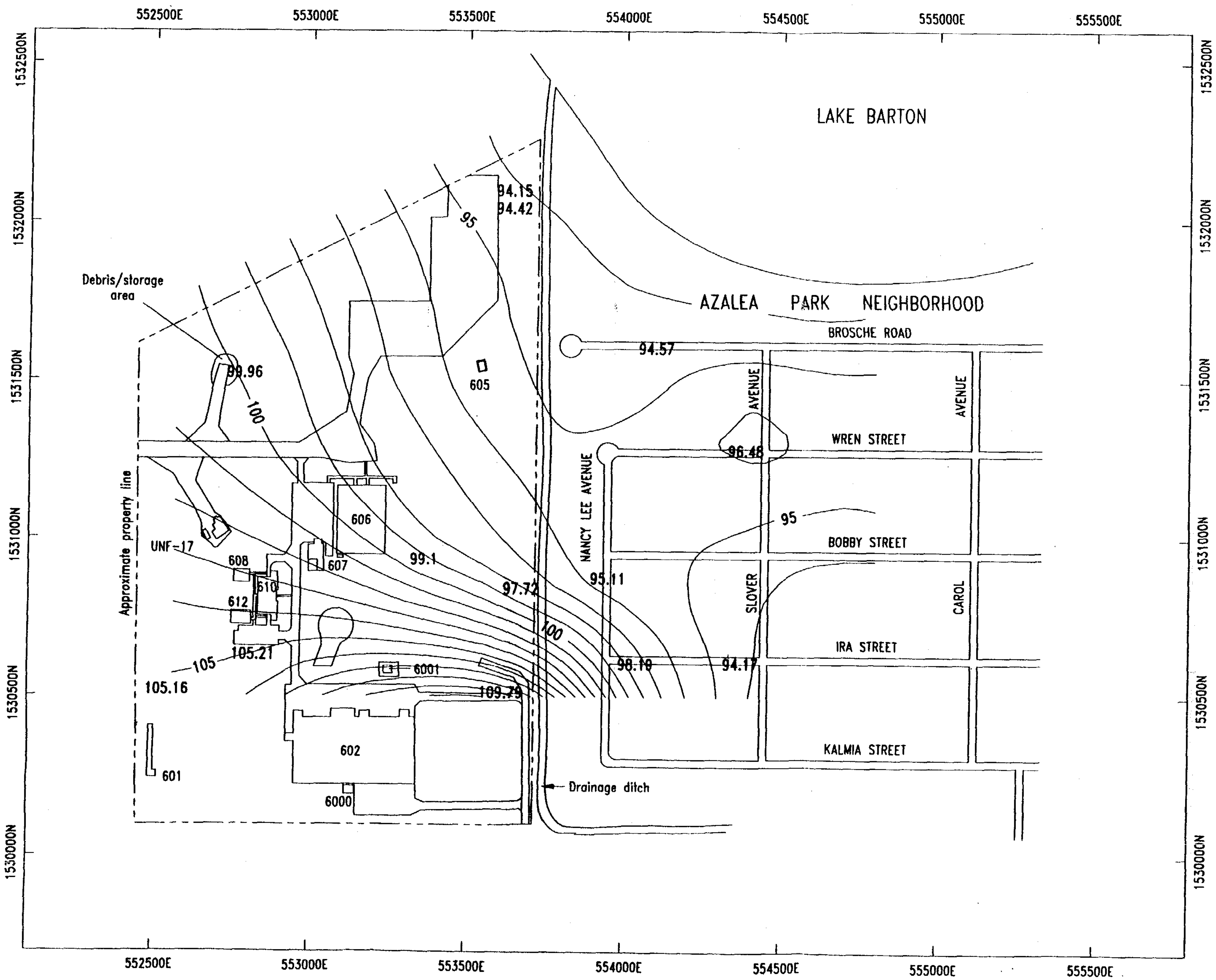
Base Realignment and Closure
Environmental Site Screening Report
Study Area 2, Herndon Annex
Naval Training Center
Orlando, Florida

Monitoring Well ID	Slug In/Out	Hydraulic Conductivity Results		
		ft/min	ft/day	cm/sec
Shallow Wells:				
OLD0209A	Out	3.1×10^{-2}	43.9	1.5×10^{-2}
OLD0211A	Out	9.3×10^{-3}	13.4	4.7×10^{-3}
OLD0215A	Out	3.2×10^{-2}	46.2	1.6×10^{-2}
Average:		2.4×10^{-2}	34.5	1.2×10^{-2}
Deep Wells:				
OLD0208C	Out	1.8×10^{-2}	25.9	9.1×10^{-3}
OLD0210C	Out	2.4×10^{-2}	34.6	1.2×10^{-2}
OLD0217C	Out	4.3×10^{-3}	6.2	2.2×10^{-3}
Average:		1.5×10^{-2}	22.22	7.8×10^{-3}
Total Average:		1.9×10^{-2}	28.37	1.0×10^{-2}

Notes: ID = identification.
ft/min = feet per minute.
ft/day = feet per day.
cm/sec = centimeters per second.

The groundwater flow velocity for both the shallow and deep portions of the surficial aquifer, based on measurements or assumptions of the above parameters, is approximately 1 to 1.5 feet per day.

In deeper portions of the surficial aquifer, groundwater flow is northerly in the southern portion of Herndon Annex and northeasterly further to the north. In Azalea Park, groundwater appears to flow generally to the north toward Lake Barton, although there is an anomalous groundwater "mound" along Wren Street. This anomaly may be due to a leaky seal above the screened interval in well OLD0217C, creating a similar water level in both wells (Figure 7-3). The horizontal gradient for the deep surficial aquifer varies from less than 0.006 to 0.025 foot per foot.



LEGEND

95	Elevation of groundwater potentiometric surface
95.1	Spot elevation of groundwater potentiometric surface (measured from monitoring well)
NAD	North American Datum

NOTES:

Grid shown is Florida State Plane Coordinate System, East Zone (0901) referenced to NAD 1983-98.

Contour interval is 1 foot.

0 200 400

SCALE: 1 INCH = 400 FEET

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FIGURE 7-3
POTENTIOMETRIC GROUNDWATER CONTOURS, DEEP PORTION OF SURFICIAL AQUIFER

BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT, STUDY AREA 2
HERNDON ANNEX
NAVAL TRAINING CENTER
ORLANDO, FLORIDA

Vertical head differences between the upper and lower portions of the surficial aquifer are presented in Tables 7-2 and 7-3. These tables present data taken on February 19 and December 16, 1998. The February 19 data indicate that most portions of the site under Herndon Annex have a downward vertical flow potential with head differences of up to 5.37 feet, except for a single piezometer cluster (02PZ03A and 02PZ04C) near the deep drainage ditch in the southeast portion of the Annex, where the piezometric head differences are 5.95 feet upward, as would be expected near a feature with so much influence on local shallow groundwater flow.

The December 16, 1998, data are largely consistent with the data from February 19, 1998, in that most of the vertical flow potentials are downward with head differences of up to 2.87 feet. Although measurements could not be taken in piezometer cluster 02PZ03A/02PZ04C (it was destroyed), the new well pair nearby (OLD0220B/OLD0221C) also indicates an upward flow potential (1.08 feet up).

7.1.2 Soil As stated in Subsections 3.1.2 and 3.2.2, ten surface soil samples were composited from three areas where geophysical surveys had indicated the presence of landfill materials. Although unconfirmed by actual field verification, the landfill cover appears to be in the range of 1 to 3 feet thick, and in some areas may be greater than 3 feet thick. Based on field observations, the cover is mostly composed of fine to medium sand, but also contains occasional fragments of rolls of film, china, tableware, deteriorated drum parts, and medical waste. Several metals were detected at concentrations exceeding background screening values, but none exceeded Florida's corresponding SCTLs at any location.

For these samples, only benzo(a)pyrene (at a concentration of 700 μg/kg) and dibenz(a,h)anthracene (190 J μg/kg) at sample location 02S01301 exceeded the Florida SCTL (the SCTL for both compounds is 100 μg/kg for residential soil and 500 μg/kg for industrial soil). No other organics were detected at concentrations above SCTLs or RBCs.

7.1.3 Groundwater Groundwater screening at Herndon Annex was completed in five phases starting in July 1994 and ending in December 1998. DPT surveys in May 1995, October 1996, and September 1997 included CPT at 36 locations to depths of up to 80 feet bls, and the collection of 156 water and soil samples at 50 locations to depths of from 13.5 to 64 feet bls. Benzene was detected at concentrations exceeding the Florida and Federal MCL at 30 locations in 59 samples at depths ranging from 3 feet bls (in the deep drainage ditch between Herndon Annex and the Azalea Park Neighborhood) to 61 feet bls. The average depth for benzene detections exceeding the MCL was 44 feet bls.

Twenty-one monitoring wells were installed during site screening. Eight of these wells were installed in August and December 1997 to confirm the results of the groundwater screening investigations. Two additional wells were installed in the fall of 1998 to satisfy concerns of the OPT that the plume was adequately characterized in the area where the highest benzene concentrations had been measured during DPT investigations.

The results of all site screening activities are presented as Figures 7-4 through 7-9. Figure 7-4 presents a map showing the locations, depths, and benzene concentrations for all DPT samples that exceeded the MCL. Figure 7-5 presents a map showing all benzene concentrations in the depth range of 0 to 30 feet bls;

Table 7-2
Water-Level Elevation Data, February 19, 1998

Base Realignment and Closure
Environmental Site Screening Report
Study Area 2, Herndon Annex
Naval Training Center
Orlando, Florida

Location	Screened Interval (feet bls)	Top-of-Casing Elevation (feet above msl)	Depth to Water (feet)	Water Elevation (feet above msl)	Vertical Head Difference (feet) Upward/Downward
02PZ01A	8.5 to 18.5	(destroyed)	--	--	--
02PZ02C	55 to 60	(destroyed)	--	--	--
02PZ03A	20 to 30	111.75	7.91	103.84	
02PZ04C	55 to 60	112.20	2.41	109.79	5.95 Up
02PZ05A	10 to 20	105.64	11.37	94.27	
02PZ06C	55 to 60	105.42	11.27	94.15	0.12 Down
02PZ07C	55 to 60	98.98	4.41	94.57	
02PZ08A	10 to 20	99.04	3.55	95.49	0.92 Down
02PZ09C	50 to 55	102.87	7.85	95.02	
02PZ10A	20 to 25	102.80	2.45	100.35	5.33 Down
OLD0202A	3 to 13	111.27	7.27	104.00	
OLD0207C	58 to 63	111.52	11.56	99.96	4.04 Down
OLD0209A	5 to 15	112.34	6.30	106.04	
OLD0208C	60 to 65	112.31	7.10	105.21	0.83 Down
OLD0211A	5 to 15	107.14	4.27	102.87	
OLD0210C	52 to 57	106.90	7.80	99.10	3.77 Down
OLD0203A	3 to 13	117.45	8.31	109.14	
OLD0212C	57 to 62	116.04	10.88	105.16	3.98 Down
(147 feet apart)					
OLD0204A	5 to 15	110.03	10.24	99.79	
OLD0213C	46 to 51	104.72	7.00	97.72	2.07 Down
(212 feet apart)					
OLD0201A	7 to 17	104.70	9.57	95.13	
OLD0214C	43.5 to 48.5	102.74	8.32	94.42	0.71 Down
(284 feet apart)					
OLD0215A	5 to 15	100.05	3.22	96.83	
OLD0216B	28.5 to 33.5	99.97	3.14	96.83	0.00 Down
OLD0217C	45.5 to 50.5	99.82	3.34	96.48	0.35 Down
OLD0218B	29.5 to 34.5	102.17	3.20	98.97	
OLD0219C	49.5 to 54.5	102.32	7.21	95.11	3.86 Down

Notes: Water-level measurements collected on February 19, 1998.

bls = below land surface.
msl = mean sea level.
-- = not applicable.

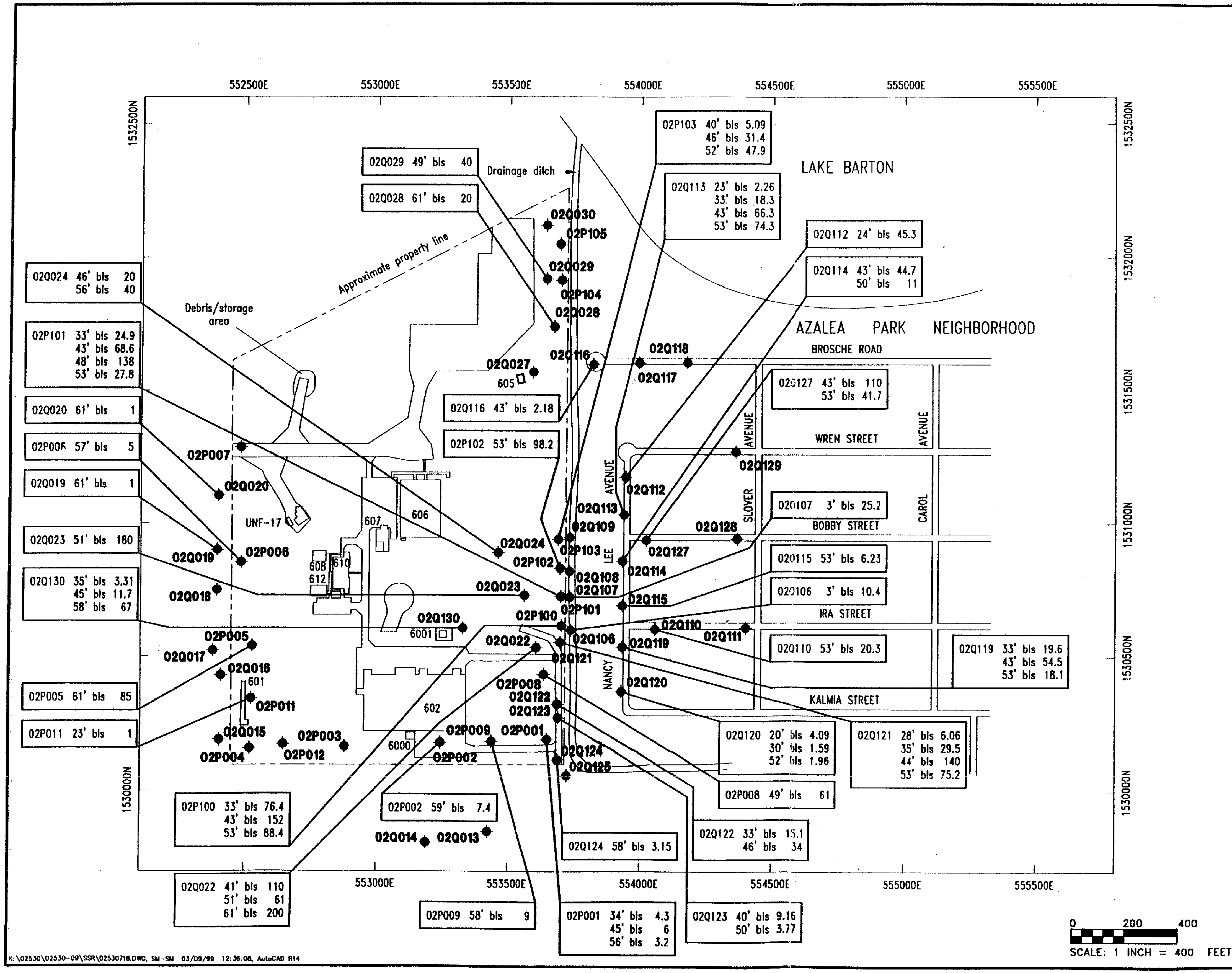
Table 7-3
Water-Level Elevation Data, December 16, 1998

Base Realignment and Closure
Environmental Site Screening Report
Study Area 2, Herndon Annex
Naval Training Center
Orlando, Florida

Location	Screened Interval (feet bls)	Top-of-Casing Elevation (feet above msl)	Depth to Water (feet)	Water Elevation (feet above msl)	Vertical Head Difference (feet) Upward/Downward
02PZ07C	55 to 60	98.98	6.35	92.63	
02PZ08A	10 to 20	99.04	5.51	93.53	0.90 Down
02PZ09C	50 to 55	102.87	7.14	95.73	
02PZ10A	20 to 25	102.80	6.54	96.26	0.53 Down
02PZ11C	50 to 55	102.12	5.71	96.41	
02PZ12A	20 to 25	101.99	5.76	96.23	0.18 Up
OLD0202A	3 to 13	111.27	9.97	101.30	
OLD0207C	58 to 63	111.52	13.42	98.10	3.20 Down
OLD0209A	5 to 15	112.34	9.80	102.54	
OLD0208C	60 to 65	112.31	10.01	102.30	0.24 Down
OLD0211A	5 to 15	107.14	7.45	99.69	
OLD0210C	52 to 57	106.90	10.08	96.82	2.87 Down
OLD0204A	5 to 15	110.03	12.40	97.63	
OLD0213C	46 to 51	104.72	8.97	95.71	1.92 Down
(212 feet apart)					
OLD0201A	7 to 17	104.70	11.15	93.55	
OLD0214C	43.5 to 48.5	102.74	9.38	93.36	0.19 Down
(284 feet apart)					
OLD0215A	5 to 15	100.05	5.85	94.24	
OLD0216B	28.5 to 33.5	99.97	5.78	94.24	0.00 Down
OLD0217C	45.5 to 50.5	99.82	5.60	94.26	0.02 Up
OLD0218B	29.5 to 34.5	102.17	6.60	95.52	
OLD0219C	49.5 to 54.5	102.32	6.77	95.50	0.02 Down
OLD0220B	36 to 41	108.26	7.78	100.48	
OLD0221C	56 to 61	108.56	7.00	101.56	1.08 Up

Notes: Water-level measurements collected on December 16, 1998.

bls = below land surface.
msl = mean sea level.



LEGEND

02P001 ◆	Phase II direct-push technology exploration/sampling location and designation
02Q116 ◆	Phase III and IV direct-push technology exploration/sampling location and designation
bls	Below land surface
DPT	Direct-push technology
NAD	North American Datum
MCL	Maximum contaminant level

NOTES:

Grid shown is Florida State Plane Coordinate System, East Zone (0901) referenced to NAD 1983-98.

Concentrations are in micrograms per liter (parts per billion).

FIGURE 7-4
BENZENE MCL EXCEEDANCES IN GROUNDWATER, ALL SAMPLES AND DEPTHS, DPT SCREENING

BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT, STUDY AREA 2 HERNDON ANNEX NAVAL TRAINING CENTER ORLANDO, FLORIDA

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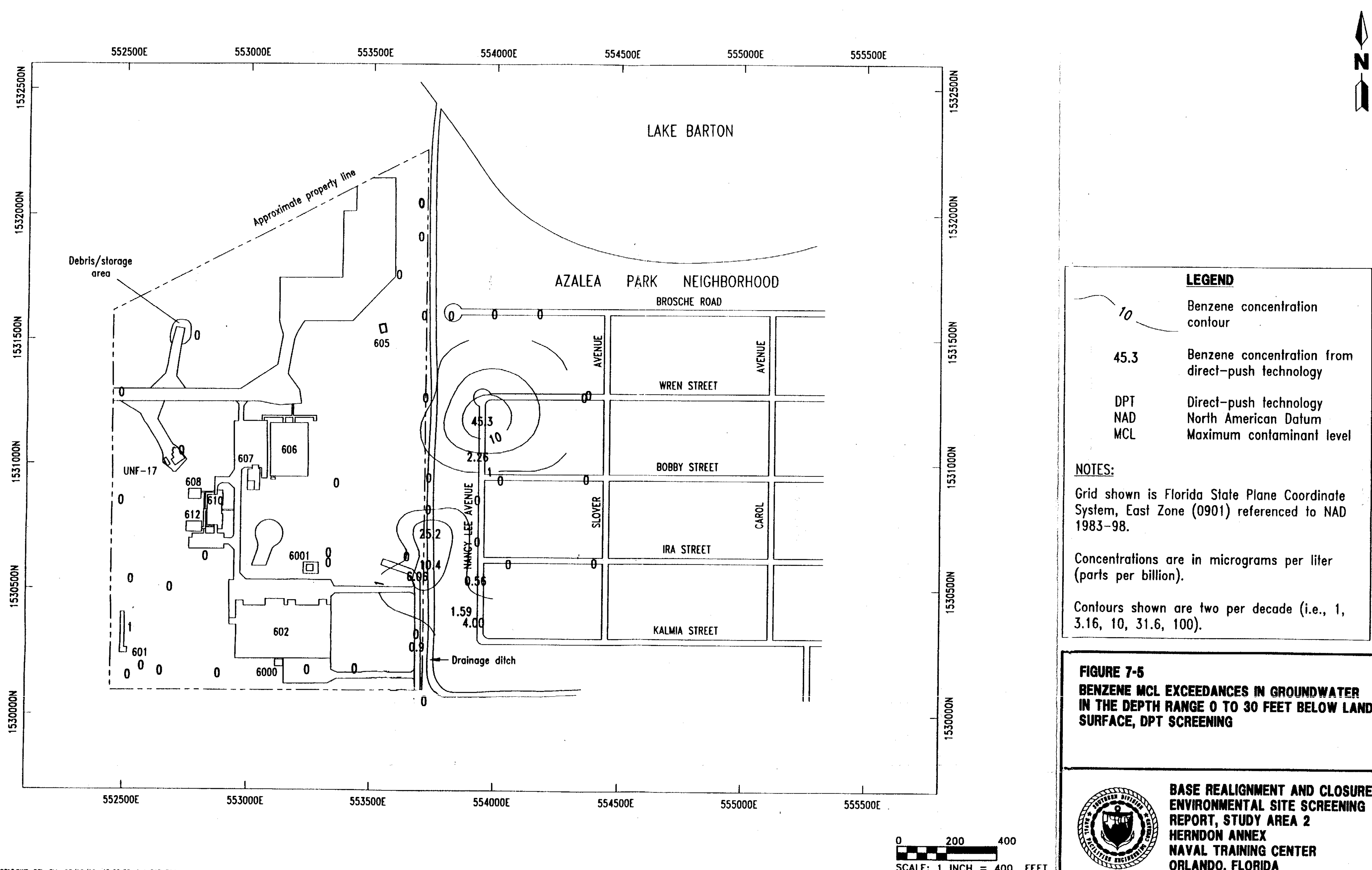


LEGEND

10	Benzene concentration contour
45.3	Benzene concentration from direct-push technology
DPT	Direct-push technology
NAD	North American Datum
MCL	Maximum contaminant level

NOTES:

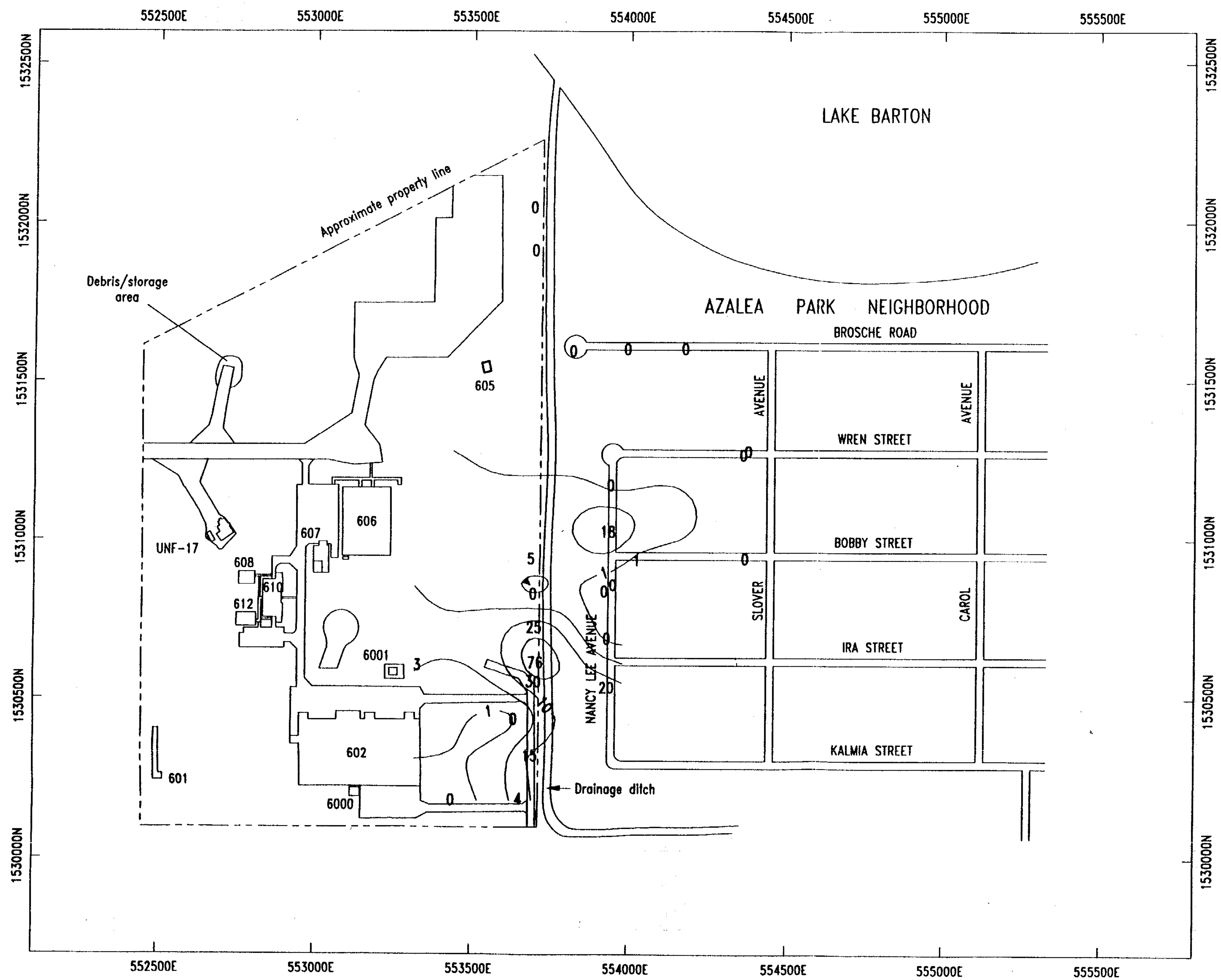
Grid shown is Florida State Plane Coordinate System, East Zone (0901) referenced to NAD 1983-98.

Concentrations are in micrograms per liter (parts per billion).

Contours shown are two per decade (i.e., 1, 3.16, 10, 31.6, 100).

FIGURE 7-5
BENZENE MCL EXCEEDANCES IN GROUNDWATER IN THE DEPTH RANGE 0 TO 30 FEET BELOW LAND SURFACE, DPT SCREENING

BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT, STUDY AREA 2
HERNDON ANNEX
NAVAL TRAINING CENTER
ORLANDO, FLORIDA



N

LEGEND

10 — Benzene concentration contour

20 — Benzene concentration from direct-push technology

DPT — Direct-push technology
NAD — North American Datum
MCL — Maximum contaminant level

NOTES:

Grid shown is Florida State Plane Coordinate System, East Zone (0901) referenced to NAD 1983-98.

Concentrations are in micrograms per liter (parts per billion).

Contours shown are two per decade (i.e., 1, 3.16, 10, 31.6, 100).

0 200 400
SCALE: 1 INCH = 400 FEET

FIGURE 7-6
BENZENE MCL EXCEEDANCES IN GROUNDWATER IN THE DEPTH RANGE 30 TO 40 FEET BELOW LAND SURFACE, DPT SCREENING

BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT, STUDY AREA 2 HERNDON ANNEX NAVAL TRAINING CENTER ORLANDO, FLORIDA

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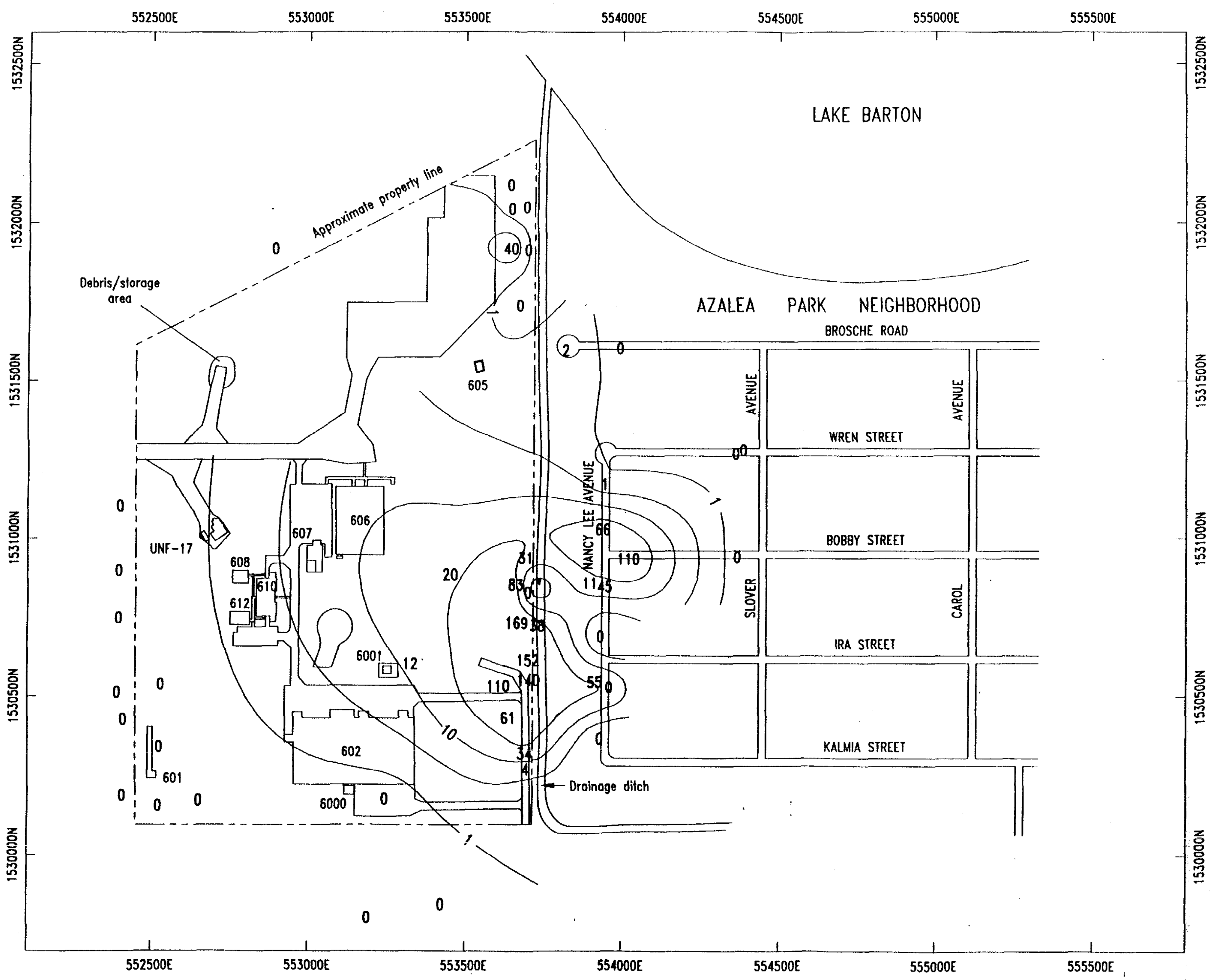

LEGEND

10 (contour line)	Benzene concentration contour
169	Benzene concentration from direct-push technology
DPT	Direct-push technology
NAD	North American Datum
MCL	Maximum contaminant level

NOTES:

Grid shown is Florida State Plane Coordinate System, East Zone (0901) referenced to NAD 1983-98.

Concentrations are in micrograms per liter (parts per billion).

Contours shown are two per decade (i.e., 1, 3.16, 10, 31.6, 100).

FIGURE 7-7
BENZENE MCL EXCEEDANCES IN GROUNDWATER IN THE DEPTH RANGE 40 TO 50 FEET BELOW LAND SURFACE, DPT SCREENING

BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT, STUDY AREA 2
HERNDON ANNEX
NAVAL TRAINING CENTER
ORLANDO, FLORIDA

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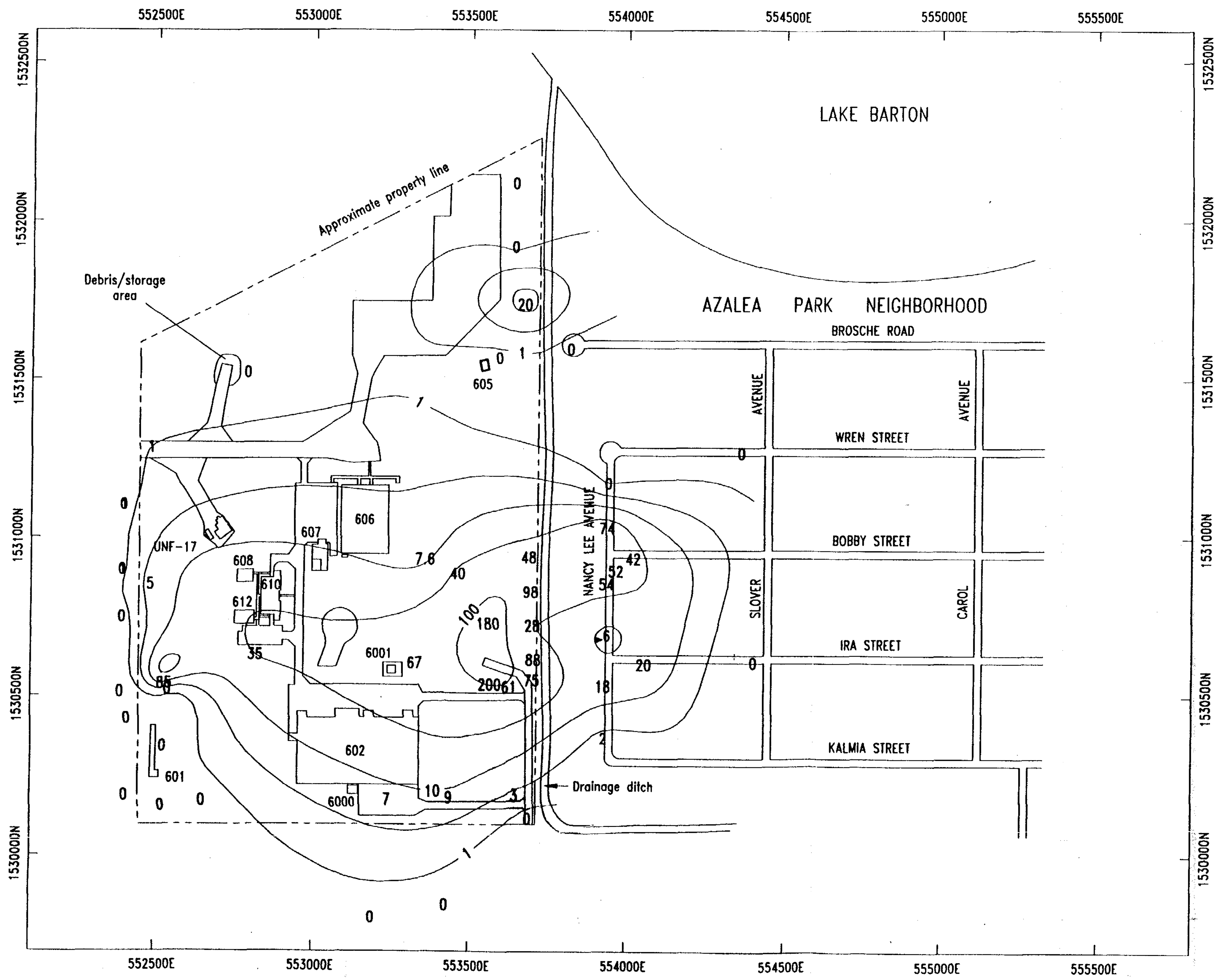

0 200 400

SCALE: 1 INCH = 400 FEET

LEGEND

10	Benzene concentration contour
180	Benzene concentration from direct-push technology
DPT	Direct-push technology
NAD	North American Datum
MCL	Maximum contaminant level

NOTES:

Grid shown is Florida State Plane Coordinate System, East Zone (0901) referenced to NAD 1983-98.

Concentrations are in micrograms per liter (parts per billion).

Contours shown are two per decade (i.e., 1, 3.16, 10, 31.6, 100).

FIGURE 7-8
BENZENE MCL EXCEEDANCES IN GROUNDWATER IN THE DEPTH RANGE GREATER THAN 50 FEET BELOW LAND SURFACE, DPT SCREENING

BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT, STUDY AREA 2 HERNDON ANNEX NAVAL TRAINING CENTER ORLANDO, FLORIDA

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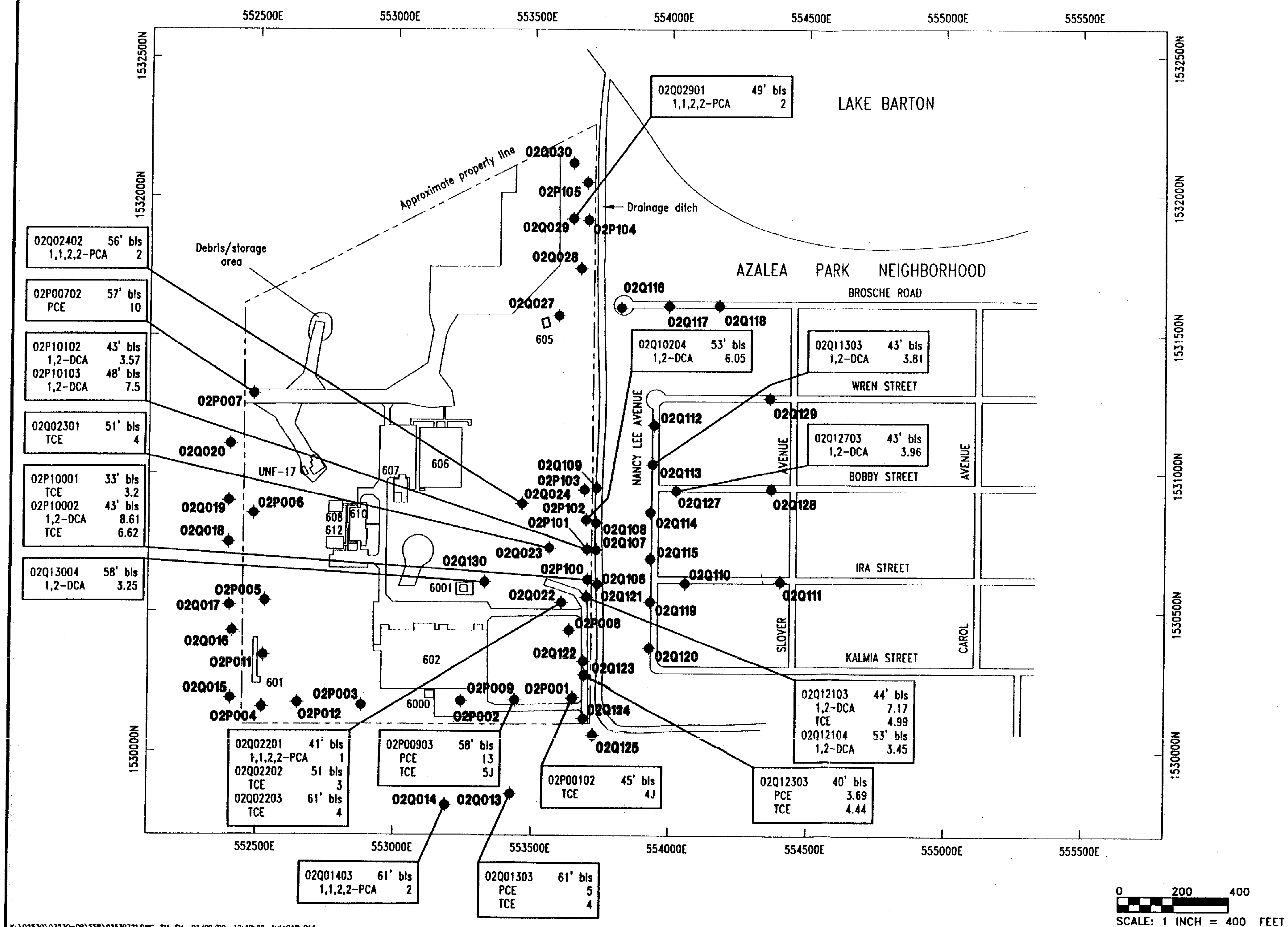


LEGEND

02P001	Phase II direct-push technology exploration/sampling location and designation
02Q116	Phase III and IV direct-push technology exploration/sampling location and designation
DCA	Dichloroethane
PCA	Tetrachloroethane
PCE	Perchloroethylene
TCE	Trichloroethene
bls	Below land surface
J	Estimated value
NAD	North American Datum
MCL	Maximum contaminant level
DPT	Direct-push technology

NOTES:

Grid shown is Florida State Plane Coordinate System, East Zone (0901) referenced to NAD 1983-98.

Concentrations are in micrograms per liter (parts per billion).

FIGURE 7-9
ALL OTHER MCL EXCEEDANCES IN GROUNDWATER, DPT SCREENING

BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT, STUDY AREA 2 HERNDON ANNEX NAVAL TRAINING CENTER ORLANDO, FLORIDA

Figure 7-6 presents the benzene concentrations for the depth range of 30 to 40 feet bls; Figure 7-7 presents the benzene concentrations for the depth range of 40 to 50 feet bls; and Figure 7-8 presents the benzene concentrations for depths greater than 50 feet bls. Figure 7-9 presents a map showing the locations, depths, and concentrations of all other contaminants for all DPT samples that exceeded their respective MCLs.

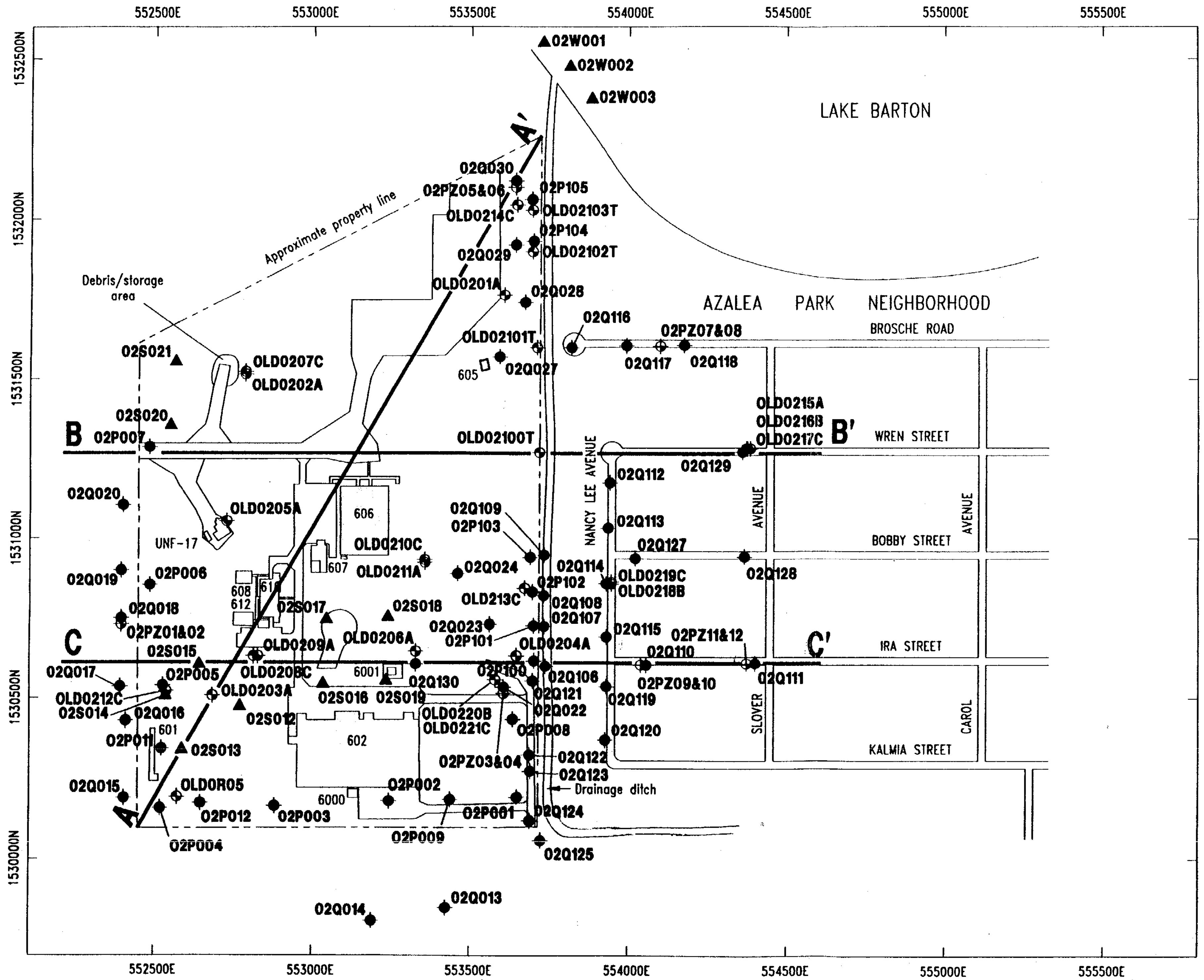
Figures 7-4 through 7-8 demonstrate that there is a benzene plume under Herndon Annex and a portion of the Azalea Park Neighborhood with concentrations up to 200 $\mu g/\ell$. There is also evidence from groundwater screening that a minor benzene plume exists in the northeast corner of Herndon Annex (Figures 7-7 and 7-8). The benzene plume also has traces of several other fuel-related compounds at some locations, but not at concentrations of concern.

Figure 7-9 demonstrates that there are several chlorinated solvents at concentrations marginally higher than their respective MCLs at locations and depths similar to benzene occurrences. These include PCA, 1,2-DCA (1,2-Dichloroethane), PCE, and TCE. However, none of these compounds occur at concentrations in excess of approximately two times the MCL, while benzene occurs at concentrations of up to approximately 100 times the MCL. It should be emphasized here that benzene was the only VOC detected in permanent monitoring wells at concentrations exceeding State and Federal MCLs.

Most of the benzene plume is found at depths deeper than 40 feet bls, indicating the possibility that the benzene source is from further upgradient than the south Herndon Annex property line. The screening data do not exhibit any evidence of contamination flowing downward from the shallow portion of the surficial aquifer, indicating that the plume likely has migrated under Herndon Annex from off site. There are anecdotal accounts of a firefighter training area (FTA) upgradient from Herndon Annex that allegedly operated during the period from 1947 to 1962 (ABB-ES, 1995c). As there are conflicting accounts of the exact location of the FTA, two locations are indicated on Figure 1-3. HLA hypothesizes that the source of the benzene plume is likely either the FTA or old fuel spills on one or more of the more than 50 parking aprons located both on Herndon Annex and upgradient (south) of the Annex on what is now The Executive Airport. The taxiways, several runways, and parking aprons where aircraft maintenance and fueling activities took place are shown on Figure 1-3.

Assessment of benzene concentrations and natural attenuation parameters indicates that there is evidence that natural biodegradation is occurring. The trend of benzene concentrations decreasing from 14 to 100 percent over a 12- to 16-month period demonstrates that natural attenuation through biodegradation is occurring.

Figures 7-10 through 7-13 present a location plan and a series of geologic profiles, including one north-south geologic profile and two east-west geologic profiles through Herndon Annex. These profiles demonstrate the location and extent of the benzene plume, which appears to have originated from an off-site source upgradient from Herndon Annex. The absence of benzene detections in the shallow portion of the surficial aquifer and the decrease in benzene concentrations to the south is consistent with a benzene plume that has migrated onto Herndon Annex from an off-site source, and whose source is depleted. Further attempts to define the source(s) of contamination would very likely prove to be futile.



LEGEND

OLD0202A	Soil boring and monitoring well location and designation
02P001	Phase II direct-push technology exploration/sampling location and designation
02Q116	Phase III and IV direct-push technology exploration/sampling location and designation
02S012	Surface soil sampling location and designation
02PZ01	Piezometer location and designation
02W001	Surface water sampling location and designation
NAD	North American Datum

NOTES:

Grid shown is Florida State Plane Coordinate System, East Zone (0901) referenced to NAD 1983-98.

See Figures 6-11, 6-12, and 6-13 for geologic cross sections.

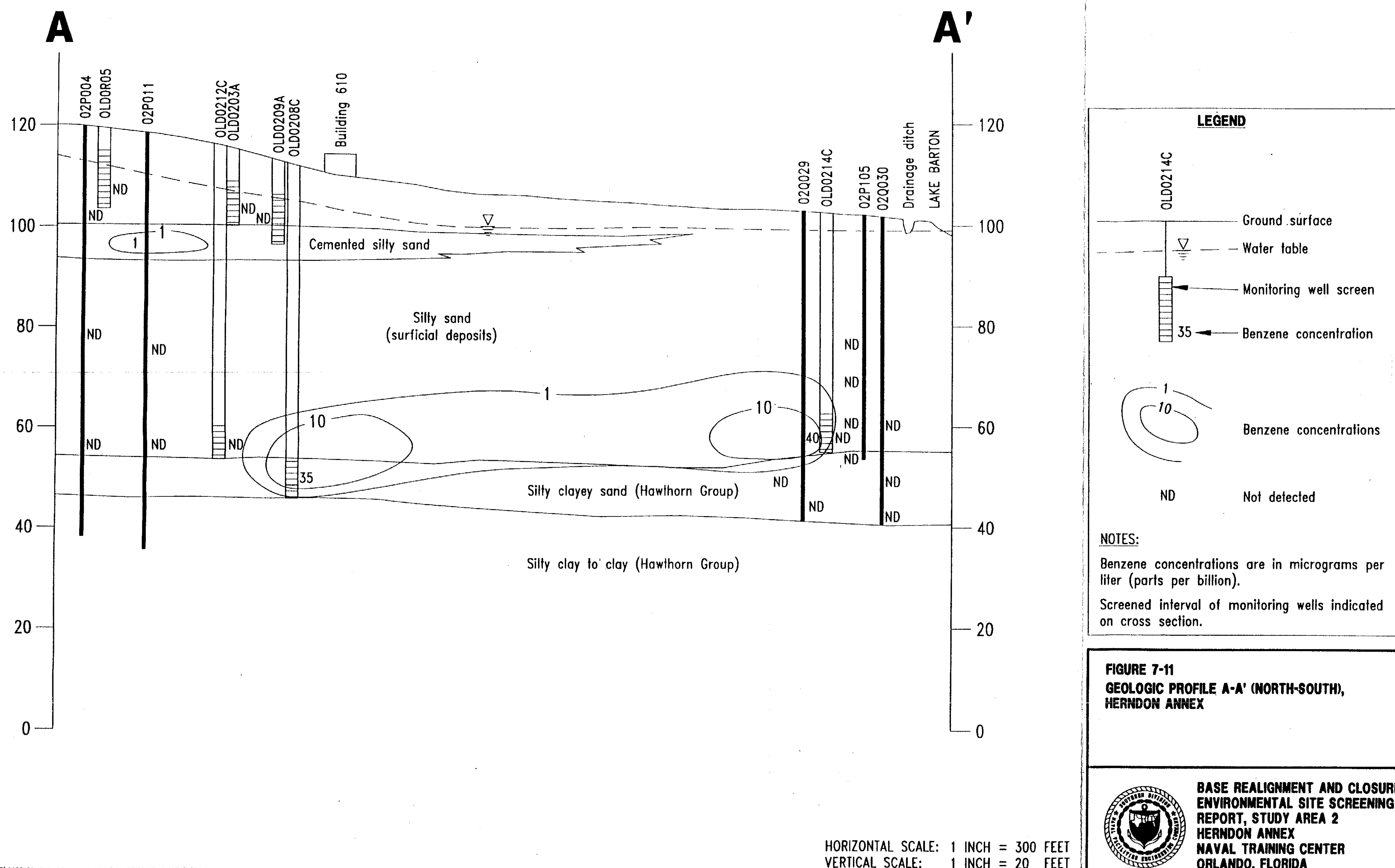
0 200 400

SCALE: 1 INCH = 400 FEET

FIGURE 7-10
LOCATION PLAN FOR GEOLOGIC PROFILES A-A' THROUGH C-C', HERNDON ANNEX

BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT, STUDY AREA 2 HERNDON ANNEX NAVAL TRAINING CENTER ORLANDO, FLORIDA

K:\02530\02530-09\SSR\02530722.DWG, DEL-SM 03/08/99 08:30:22, AutoCAD R14



NOTES:

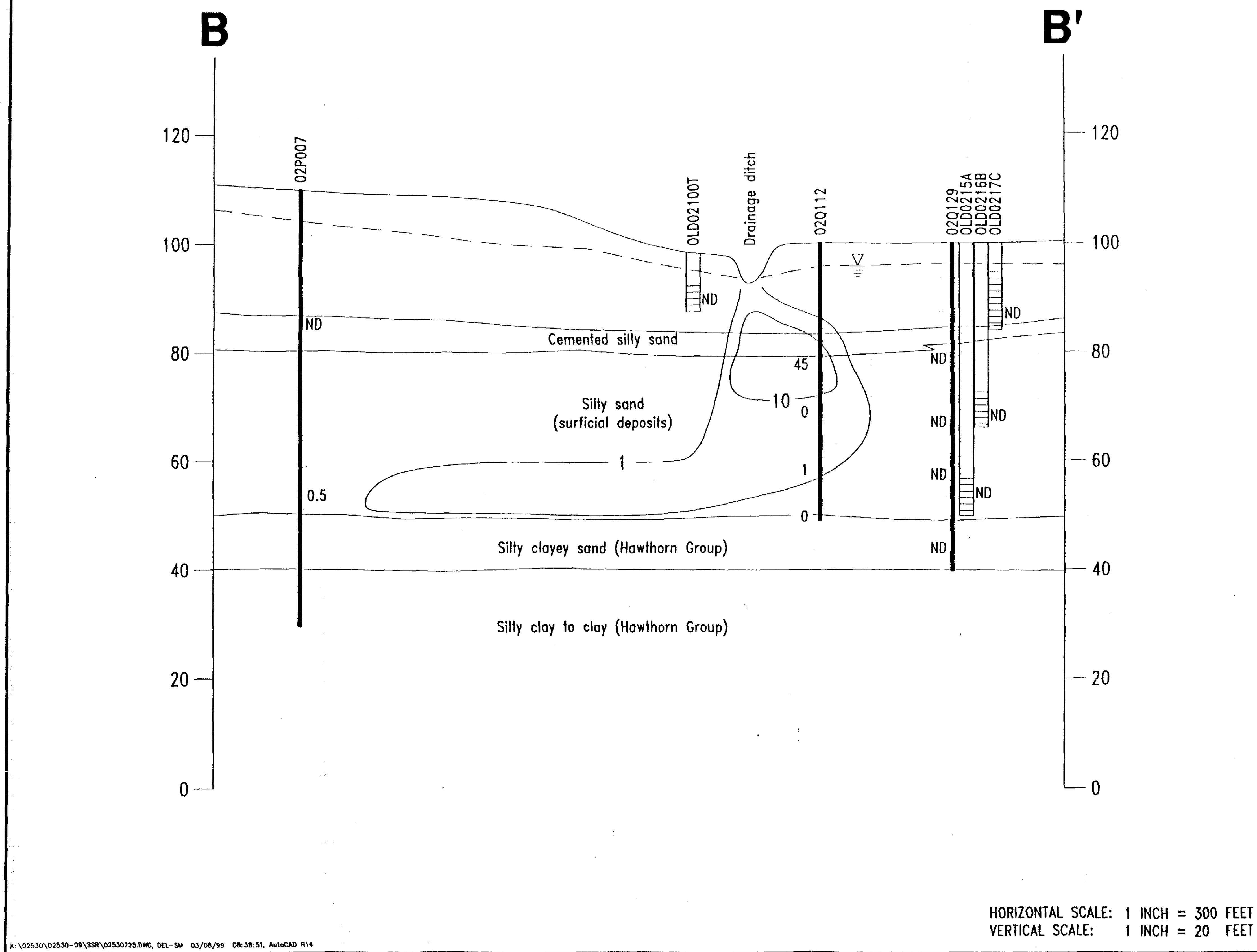
Benzene concentrations are in micrograms per liter (parts per billion).

Screened interval of monitoring wells indicated on cross section.

FIGURE 7-11
GEOLOGIC PROFILE A-A' (NORTH-SOUTH), HERNDON ANNEX

BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT, STUDY AREA 2 HERNDON ANNEX NAVAL TRAINING CENTER ORLANDO, FLORIDA

K:\02530\02530-09\SSR\02530724.DWG, DEL-SM 03/08/99 08:38:40, AutoCAD R14



LEGEND

OLD0215A

Ground surface

Water table

Monitoring well screen

ND — Benzene concentration

Benzene concentrations

ND — Not detected

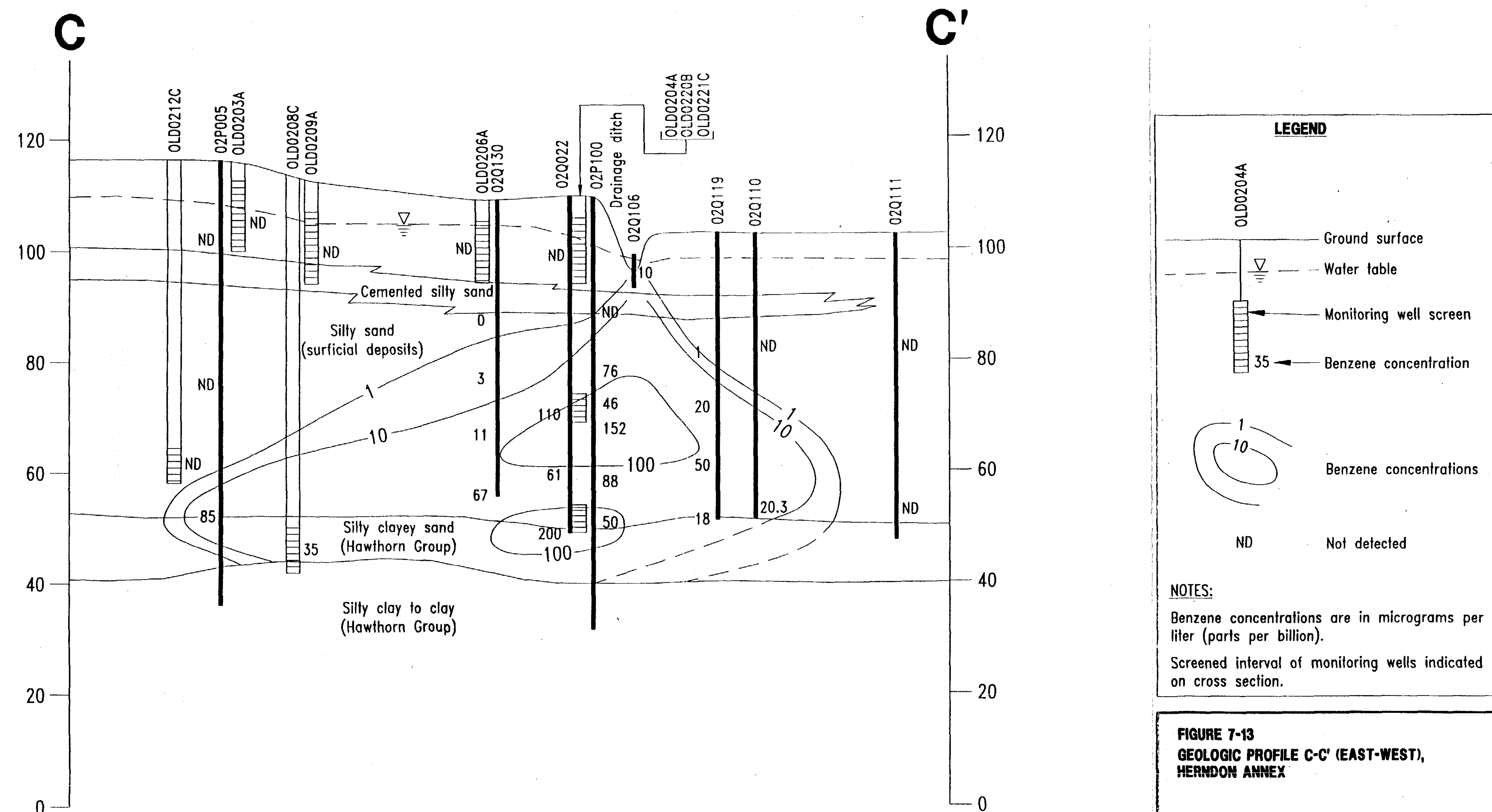
NOTES:

Benzene concentrations are in micrograms per liter (parts per billion).

Screened interval of monitoring wells indicated on cross section.

FIGURE 7-12
GEOLOGIC PROFILE B-B' (EAST-WEST), HERNDON ANNEX

BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT, STUDY AREA 2 HERNDON ANNEX NAVAL TRAINING CENTER ORLANDO, FLORIDA

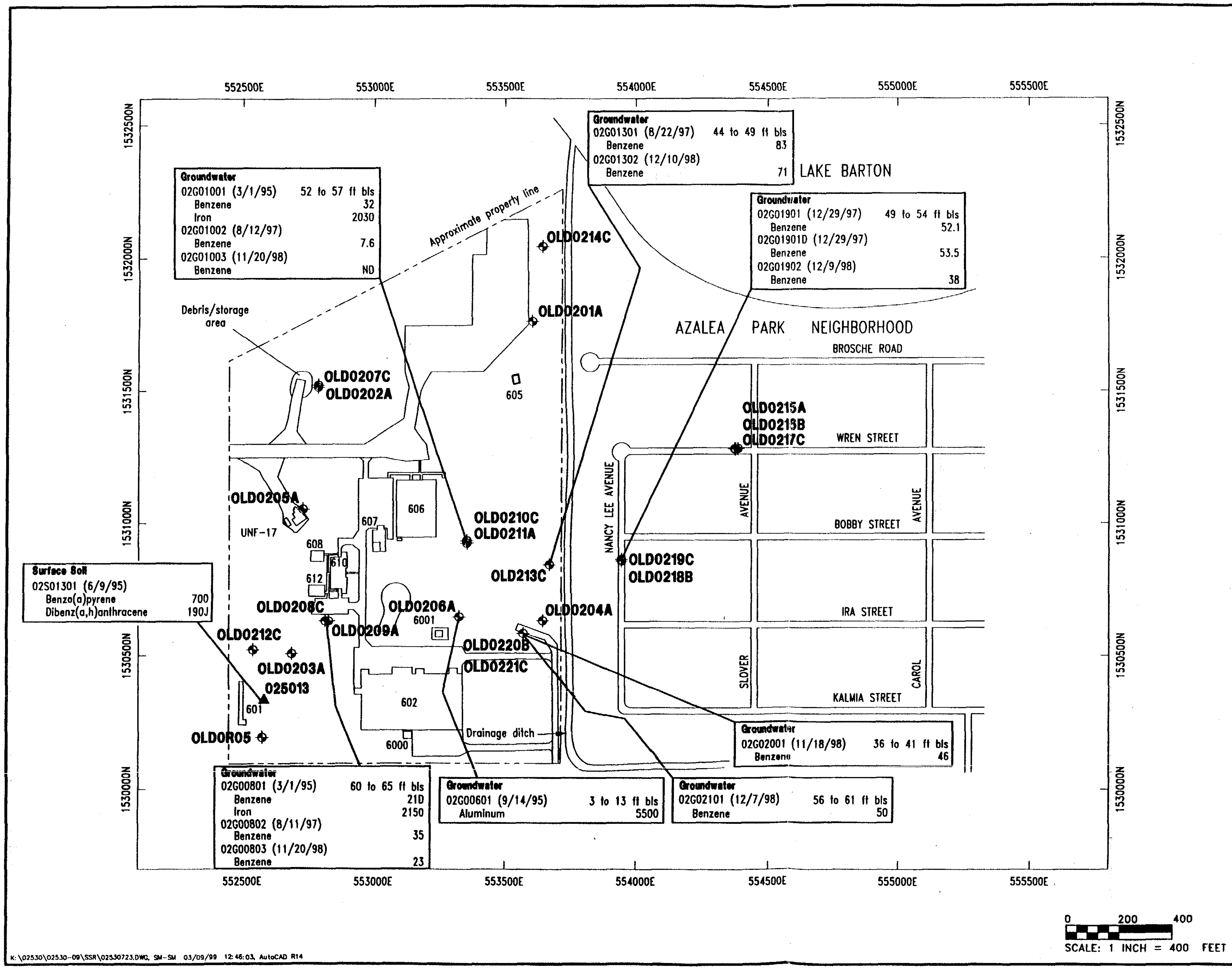


HORIZONTAL SCALE: 1 INCH = 300 FEET
VERTICAL SCALE: 1 INCH = 20 FEET

FIGURE 7-13
GEOLOGIC PROFILE C-C′ (EAST-WEST), HERNDON ANNEX

BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT, STUDY AREA 2
HERNDON ANNEX
NAVAL TRAINING CENTER
ORLANDO, FLORIDA

K:\02530\02530-09\SSR\02530726.DWG, DEL-SM 03/08/99 09:05:28, AutoCAD R14



LEGEND

OLD0208C (symbol)	Monitoring well sampling location and designation
025013 ▲	Surface soil sampling location and designation
bls	Below land surface
D	Duplicate
NAD	North American Datum
ND	Not detected

NOTES:

Grid shown is Florida State Plane Coordinate System, East Zone (0901) referenced to NAD 1983-98.

Benzene concentrations are in micrograms per liter (parts per billion); aluminum and iron concentrations are in milligrams per liter.

FIGURE 7-14
EXCEEDANCES OF SCREENING CRITERIA IN SOIL AND PERMANENT MONITORING WELLS

BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT, STUDY AREA 2 HERNDON ANNEX NAVAL TRAINING CENTER ORLANDO, FLORIDA

Figure 7-14 presents the concentrations of all contaminants exceeding screening criteria detected in permanent monitoring wells. Benzene was detected in six wells at concentrations exceeding the MCL. Aluminum and iron were detected in two shallow wells at concentrations exceeding background screening levels and

Florida secondary standards, although not at levels that trigger human health concerns. There are no other contaminants of concern detected in groundwater from permanent monitoring wells.

7.2 CONCLUSIONS AND RECOMMENDATIONS.

7.2.1 Soil Only benzo(a)pyrene (at a concentration of 700 μg/kg) and dibenz-(a,h)anthracene (190 J μg/kg) at surface soil sample location 02S01301 exceeded the Florida SCTL (the SCTL for both compounds is 100 μg/kg for residential soil and 500 μg/kg for industrial soil. The pattern of semivolatile contamination may be related to a global or basewide pattern of PAH contamination at NTC, Orlando, and is typical of urban environments.

HLA concludes that the surface soil at Herndon Annex does not have contaminants at concentrations that justify the need for additional delineation or remediation, given the fact that the intended reuse for the parcel is industrial. However, because of the presence of former landfills at Herndon Annex (Figure 2-1), HLA recommends that transfer documents notify future residents of their presence, and that institutional controls be established to limit intrusive activities over former landfills and to maintain the existing cover. Such restrictions would protect site workers from exposure to potentially harmful materials.

7.2.2 Groundwater Deeper portions of the surficial aquifer at Herndon Annex and the Azalea Park Neighborhood have benzene contamination at concentrations that exceed State and Federal MCLs. The highest benzene concentration confirmed in permanent monitoring wells is 83 $\mu g/\ell$, versus a Florida MCL of 1 $\mu g/\ell$. During groundwater screening with DPT, concentrations as high as 200 $\mu g/\ell$ were measured.

The contamination may have been associated with activities related to aircraft maintenance on the various parking aprons on the former Orlando Army Air Base (Section 1.2), the alleged FTAs located south of Herndon Annex (Figure 1-3), or solid waste disposal operations on Annex property (Figure 2-1). Because the primary chemical of concern is benzene, HLA recommends that future actions at SA 2 be handled in accordance with 62-770 Florida Administrative Code.

Because of concerns regarding benzene contamination in the surficial aquifer, the Navy and the City of Orlando conducted a well survey and concluded that there were no permitted potable water wells in the Azalea Park Neighborhood that were screened in the surficial aquifer.

Although there does not appear to be any residents that are using the surficial aquifer as a potable water source, HLA recommends that an evaluation of remedial options and a cost benefit analysis should be completed. HLA also recommends that a quarterly groundwater monitoring program of selected monitoring wells installed during this investigation be implemented. Samples would be collected and submitted for volatiles analysis only, and data would be evaluated to determine if there are any trends in the increase or decrease of concentrations of contaminants. The monitoring program should include any private irrigation wells within the benzene plume. Concurrently with the groundwater monitoring program, HLA recommends that a focused risk assessment be conducted to evaluate potential exposure due to private irrigation wells known to exist in the Azalea Park Neighborhood. The results of the risk assessment should be included in the first quarter monitoring report. After a period of one year, the monitoring program would be reevaluated to determine if additional remedial measures are warranted, or if natural processes are causing a reduction in contaminant concentrations.

HLA further recommends that a temporary groundwater-use restriction be imposed for the shallow portion of the surficial aquifer pending results of the groundwater monitoring program. The groundwater-use restriction should include an advisory to the St. Johns River Water Management District and the City of Orlando that no surficial wells are to be permitted while the restriction is in effect. Local residents should be issued a groundwater-use advisory warning them of the potential hazards from using the surficial aquifer as a potable water source.

HLA recommends that after institutional controls and the chosen remedial alternative (monitoring) are in place, SA 2 be made eligible for transfer, and that the site be reclassified from 7/Gray to 4/Dark Green.

The undersigned members of the Orlando Partnering Team concur with the findings and recommendations of the preceding investigation.

STUDY AREA 2, HERNDON ANNEX

Nancy Rodriguez — 6-24-99

U.S. Environmental Protection Agency, Region IV — Date

David P. Grabka — 6/24/99

Florida Department of Environmental Protection — Date

Wayne J. Hansel — 6-24-99

U.S. Department of the Navy — Date

REFERENCES

ABB Environmental Services, Inc. (ABB-ES). 1994. *Base Realignment and Closure Environmental Baseline Survey Report, NTC, Orlando, Florida*. Prepared for Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM), North Charleston, South Carolina.

ABB-ES. 1995a. *Site Screening Plan, Groups I through V Study Areas and Miscellaneous Additional Sites, NTC, Orlando, Florida*. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina.

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Beach Associates. 1964. *Master Plan, Orlando Air Force Base, Orlando, Florida*. Prepared for Department of Air Force, Directorate of Civil Engineering. Washington, D.C.

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APPENDIX A

SOIL BORING LOGS, MONITORING WELL CONSTRUCTION DETAILS, AND GROUNDWATER SAMPLING FIELD DATA SHEETS

Project: BRAC NTC, Orlando, Group I, Site Screening	**Well ID:** OLD-02-01A	**Boring ID:** 02B001
Client: SOUTHNAVFACENGCOM	**Contractor:** Groundwater Protection, Inc.	**Job No.:** CTO-107
Northing: 1531782.8574	**Easting:** 553805.2128 / **Date started:** 09/02/94	**Complt'd:** 09/02/94
Method: 4.25" Hollow stem auger	**Casing dia.:** 2 in. / **Screened int.:** 7-17 ft. bls	**Protection level:** D
TOC elev.: 104.70 Ft.	**Type of OVM:** Porta FID / **Total dpth:** 17.5Ft.	**Dpth to** ▽ 12 ± Ft.
ABB Rep.: S. Grietens	**Well development date:** 09/07/94	**Site:** Study Area 02

Depth Ft.	Laboratory Sample ID.	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Soil class.	Blows/6-in.
			0	QUARTZ SAND: dark brown, fine grained, good sorting, good rounding, with trace silts and trace fine clean white sands.	SP	posthole
5		70%	0			4,3,5,5
		70%	0			3,3,3,2
		25%	0	QUARTZ SAND: Dark brown/black same as .5 to 9 feet with some hard clay lenses.		1,1,6,15
10		80%	0			5,14,23,29
	02B00101	100%	0			28,25,23,29
15		90%	0	QUARTZ SAND: Brown/tan same as 7 to 9 feet. (13.5 feet a thick sandy clay lense noted, with good plasticity.)		6,9,12,14
		80%	0			3,12,19,18
20						

 ABB ENVIRONMENTAL SERVICES, INC.

GROUNDWATER SAMPLE FIELD DATA

Project: NTC-ORLANDO
Project Number: 2530.05
Sample Location ID: OLD-02-01
Time: Start: 1700 End: 1830

Point of Interest: SA 2
Date: 6-14-95
Signature of Sampler: [illegible] for D. Bums

Water Level/Well Data

Well Depth 16.85 ft. ✓ Measured ___ Historical

___ Top of Well ___ Top of Protective Casing

Well Riser Stick-up (from ground) N/A ft.

Protective Casing/Well Difference ___ ft.

Protective Casing ___ ft.

Depth to Water 10.93 ft.

Well Material: ✓ PVC ___ SS

Well Locked?: ✓ Yes ___ No

Well Dia. ✓ 2 inch ___ 4 inch ___ 6 inch

Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 5.92 ft. X ✓ .16 Gal/ft. (2 in.) ___ .65 Gal/ft. (4 in.) ___ 1.5 Gal/ft. (6 in.) ___ Gal/ft. (__ in.) = .95 Gal/Vol; 13.5 Total Gal Purged

Well Integrity: Yes / No
Prot. Casing Secure ✓
Concrete Collar Intact
Other

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling		Equipment ID
✓	✓	Peristaltic Pump	NH
		Submersible Pump	
		Bailer	
✓	✓	PVC/Silicon Tubing	
✓	✓	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

Ambient Air VOC NA ppm Well Mouth Ø ppm

Field Data Collected ___ In-line ✓ In Container

Sample Observations: ___ Turbid ✓ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 4.5 Gal.	@ 6.5 Gal.	@ 8.5 Gal.	@ 12.5 Gal.	@ 13.5 Gal.
Temperature, Deg. C	28°	28	28	27.5	27.5
pH, units	5.63	5.59	5.59	5.84	5.76
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	183	160	130	150	150
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm					

Sample Collection Requirements
(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL	NA	✓	02 / G / 001 / 02
SVOA		4OC		✓	
Pest/PCB		4OC		✓	
Inorganics		HNO_3			
Explosives		4°C			
TPH		H_2SO_4		✓	
TOC		H_2SO_4		✓	
Nitrate		H_2SO_4			

Notes:

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Point of Interest: SA 02
Project Number: 02530.05
Date: 12-8/98
Sample Location ID: OLD-02-01
Time: Start: 1000 End: 1340
Signature of Sampler: CJP

Water Level/Well Data

Well Depth 16.90 Ft. X Measured ___ Historical
X Top of Well ___ Top of Protective Casing
Well Riser Stick-up FM Ft. (from ground)
Protective Casing/Well Difference ___ Ft.
Protective Casing ___ Ft.

Depth to Water 11.03 Ft.
Well Material: X PVC ___ SS
Well Locked?: X Yes ___ No
Well Dia. X 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 5.87 Ft. X
X .16 Gal/Ft. (2 in.)
___ .65 Gal/Ft. (4 in.)
___ 1.5 Gal/Ft. (6 in.)
___ Gal/Ft. (__ in.)
= 0.94 Gal/Vol; 5.5 Total Gal Purged

Well Integrity: (Yes / No)
Prot. Casing Secure: X Yes
Concrete Collar Intact: X Yes
Other: X Yes

Equipment Documentation

Purging/Sampling Equipment Used:

Purging	Sampling	Equipment	Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
X	X	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used: (✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
X Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

Ambient Air VOC NR ppm Well Mouth NR ppm
Field Data Collected ___ In-line X In Container
Sample Observations: ___ Turbid X Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 1.0 Gal.	@ 2.0 Gal.	@ 3.0 Gal.	@ 4.5 Gal.	@ 5.5 Gal.
Temperature, Deg. C	27.0	26.9	27.0	28.4	27.8
pH, units	6.02	6.08	5.85	5.70	5.84
Specific Conductivity ~~(umhos/cm @ 25 Deg. C)~~	160	142	130	150	148
Oxidation - Reduction, +/- mv	-318.8	-54.4	-86.9	82.2	53.7
~~Dissolved Oxygen, ppm~~ NTU	7200	93.7	19.6	13.08	8.12

Sample Collection Requirements
(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL			
SVOA		4C			
Pest/PCB		4C			
Inorganics		HNO_3			
Explosives		4°C			
TPH		H_2SO_4			
TOC		H_2SO_4			
Nitrate		H_2SO_4			

Notes:

02G00103
3x 40ml w/HCL = VOC
2x 40ml w/HCL = Diss. Gases
2x 40ml w/H_2SO_4 = TOC

Project: BRAC NTC, Orlando, Group I, Site Screening	Well ID: OLD-02-02A	Boring ID: 02B002
Client: SOUTHNAVFACENGCOM	Contractor: Groundwater Protection, Inc.	Job No.: CTO-107
Northing: 1531515.4122	Easting: 552787.0473 / Date started: 09/06/94	Compltd: 09/06/94
Method: 4.25" Hollow stem auger	Casing dia.: 2 in. / Screened int.: 3-13 ft. bls	Protection level: D
TOC elev.: 111.27 Ft.	Type of OVM: Porta FID / Total dpth: 13.5Ft.	Dpth to ∇ 8.0± Ft.
ABB Rep.: S. Grietens	Well development date: 09/07/94	Site: Study Area 02

Depth Ft.	Laboratory Sample ID.	Sample	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
0–4					QUARTZ SAND: Gray/brown, fine grained, good sorting, good rounding, with trace organics.		SP	posthole	
4–6			75%	0	QUARTZ SAND: Brown/light tan same as .5 to 4 feet with trace phosphates.			3,2,2,3	
6–8			75%	0				4,3,3,3	
8–10	02B00201		85%	0				18,5,6,9	
10–12			85%	0				3,3,6,8	
12–14			90%	0				3,6,12,14	

Depth scale: 5, 10, 15

 ABB ENVIRONMENTAL SERVICES, INC.

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Point of Interest: SA2
Project Number: 2530.05
Date: 6-14-95
Sample Location ID: OLD-02-02
Time: Start: 1500 End: 1530
Signature of Sampler: Mark Tooler for B. Burn

Water Level/Well Data

Well Depth 13.06 Ft. ✓ Measured ___ Historical
___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up N/A Ft. (from ground)
Protective NA Ft. Casing/Well Difference
Protective NA Ft. Casing

Depth to Water 9.85 Ft.
Well Material: ✓ PVC ___ SS
Well Locked?: ✓ Yes ___ No
Well Dia. ✓ 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 3.21 Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.) = .51 Gal/Vol; 4.5 Total Gal Purged

Well Integrity: Yes / No
Prot. Casing Secure ✓
Concrete Collar Intact ✓
Other ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging / Sampling — Equipment ID

- Peristaltic Pump
- Submersible Pump
- Bailer
- PVC/Silicon Tubing ✓ ✓
- [illegible]
- Airlift
- Hand Pump
- In-line Filter
- Press/Vac Filter

Decontamination Fluids Used:

(✓ All That Apply at Location)
- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- ✓ Deionized Water
- ✓ Liquinox Solution
- ___ [illegible]
- ___ HNO₃/D.I. Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

Ambient Air VOC N/A ppm Well Mouth Ø ppm
Field Data Collected ___ In-line ✓ In Container
Sample Observations: ___ Turbid ✓ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 1.0 Gal.	@ 2.3 Gal.	@ 3.7 Gal.	@ 4.3 Gal.	@ ___ Gal.
Temperature, Deg. C	28	27	28	28	
pH, units	5.95	6.24	6.20	6.21	
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	260	230	230	230	
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm					

Sample Collection Requirements
(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL	N/A	✓	02 / G / 002 / 01
SVOA		4OC		✓	/ / /
Pest/PCB		4OC		✓	/ / /
Inorganics		HNO_3			/ / /
Explosives		4OC			/ / /
TRPH		H_2SO_4		✓	/ / /
TOC		H_2SO_4		✓	/ / /
Nitrate		H_2SO_4			/ / /

Notes:

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Point of Interest: SA 02
Project Number: 02530.05
Date: 12-8/98
Sample Location ID: OLD-02-02
Time: Start: 1405 End: 1640
Signature of Sampler: CJP

Water Level/Well Data

Well Depth 13.65 Ft. X Measured ___ Historical

X Top of Well ___ Top of Protective Casing

Well Riser Stick-up FM Ft. (from ground)

Protective Casing/Well Difference ___ Ft.

Protective Casing ___ Ft.

Depth to Water 9.86 Ft.

Well Material: X PVC ___ SS

Well Locked?: X Yes ___ No

Well Dia. X 2 inch ___ 4 inch ___ 6 inch

Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 3.19 Ft. X [X .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.)] = 0.51 Gal/Vol; 10 Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure	X	
Concrete Collar Intact	X	
Other		

Equipment Documentation

Purging/Sampling Equipment Used:

Purging	Sampling	(✓ If Used For)	Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
X	X	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used: (✓ All That Apply at Location)

- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- X Deionized Water
- ___ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

Ambient Air VOC NR ppm Well Mouth NR ppm

Field Data Collected ___ In-line X In Container

Sample Observations: ___ Turbid X Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 5.0 Gal.	@ 6.0 Gal.	@ 7.5 Gal.	@ 9.0 Gal.	@ 10.0 Gal.
Temperature, Deg. C	27.3	27.2	26.9	26.9	~~70~~ 27.0
pH, units	6.64	6.06	6.04	6.65	6.30
Specific Conductivity ~~(umhos/cm @ 25 Deg. C)~~	165	160	160	160	168
Oxidation - Reduction, +/- mv	109.1	114.2	-120	46	63.2
~~Dissolved Oxygen, ppm~~ NTU	4.14	3.22	3.35	13.32	4.55

Sample Collection Requirements
(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL			/ / /
SVOA		4OC			/ / /
Pest/PCB		4OC			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4			/ / /
Nitrate		H_2SO_4			/ / /

Notes:

02G00203
3x 40ml w/HCL = VOC
2x 40ml w/HCL = Diss. Gases
2x 40ml w/H_2SO_4 = TOC

Project: BRAC NTC, Orlando, Group I, Site Screening	Well ID: OLD-02-03A	Boring ID: 02B003
Client: SOUTHNAVFACENGCOM	Contractor: Groundwater Protection, Inc.	Job No.: CTO-107

Northing: 1530507.8518	Easting: 552685.8688	Date started: 09/08/94	Compltd: 09/08/94
Method: 4.25" Hollow stem auger	Casing dia.: 2 in.	Screened int.: 3-13 ft. bls	Protection level: D
TOC elev.: 117.45 Ft.	Type of OVM: Porta FID	Total dpth: 13.5Ft.	Dpth to ▽ 8.0± Ft.
ABB Rep.: S. Grietens	Well development date: 09/08/94		Site: Study Area 02

Depth Ft.	Laboratory Sample ID.	Sample	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
0					QUARTZ SAND: Gray/brown, fine grained, good sorting, good rounding, with trace organics.		SP	posthole	
4			50%	0	QUARTZ SAND: White, clean fine grained, same as .5 to 4 feet.			4,4,5,7	
6			50%	0				5,2,3,5	
8	02B00301		75%	0	QUARTZ SAND: Brown/dark brown, same as .5 to 4 feet.			4,5,7,12	
10			80%	0				2,7,9,15	
12			75%	0				3,4,7,8	

Depth scale: 5, 10, 15

Project: BRAC NTC, Orlando, Group I, Site Screening	**Well ID:** OLD-02-04A	**Boring ID:** 02B004
Client: SOUTHNAVFACENGCOM	**Contractor:** Groundwater Protection, Inc.	**Job No.:** CTO-107
Northing: 1530633.0756	**Easting:** 553644.7344 **Date started:** 09/08/94	**Complid:** 09/08/94
Method: 4.25" Hollow stem auger	**Casing dia.:** 2 in. **Screened int.:** 5-15 ft. bls	**Protection level:** D
TOC elev.: 110.63 Ft.	**Type of OVM:** Porta FID **Total dpth:** 15.5Ft.	**Dpth to** ∇ 10.02 Ft.
ABB Rep.: S. Grietens	**Well development date:** 09/09/94	**Site:** Study Area 02

Depth Ft.	Laboratory Sample ID.	Sample	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
0					QUARTZ SAND: Gray/brown, fine grained, good sorting, good rounding, with trace organics.		SP	posthole	
4			70%	0				3,3,4,5	
6			50%	0	QUARTZ SAND: Tan/brown, with some silts, same as .5 to 7 feet.			4,4,7,8	
8	02B00401		60%	0				18,7,7,8	
10			75%	0				3,3,4,5	
12			85%	0				4,6,8,10	
14			90%	0	QUARTZ SAND: Gray/black same as 7 to 14 feet.			4,9,8,8	

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Point of Interest: SA 2
Project Number: 2530.05
Date: 6-14-95
Sample Location ID: OLD-02-04
Time: Start: 1650 End: 1700
Signature of Sampler: Mick Todino for B. Burns

Water Level/Well Data

Well Depth 15.10 Ft. ✓ Measured ___ Historical
___ Top of Well ___ Top of Protective Casing ___ ________
Well Riser Stick-up ______ Ft. (from ground)
Protective ______ Ft. Casing/Well Difference
Protective ______ Ft. Casing

Depth to Water 12.24 Ft.
Well Material: ___ PVC ___ SS ________
Well Locked?: ___ Yes ✓ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch ___ ________
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer ___ ________

Height of Water Column 2.86 Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.) = .46 Gal/Vol; 2.0 Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure		✓
Concrete Collar Intact		
Other ________		

Equipment Documentation

Purging/Sampling Equipment Used:

Purging (✓ If Used For)	Sampling (✓ If Used For)		Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
✓	✓	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used: (✓ All That Apply at Location)

___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
___ ________

Field Analysis Data

Ambient Air VOC NA ppm Well Mouth Ø ppm
Field Data Collected ___ In-line ✓ In Container
Sample Observations: ✓ Turbid ___ Clear ___ Cloudy ✓ Colored ___ Odor

Purge Data	@ 1.0 Gal.	@ 2.0 Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.
Temperature, Deg. C	28	28			
pH, units	5.56	5.66			
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	200	175			
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm					

Sample Collection Requirements
(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCl	NA		
SVOA		4C			
Pest/PCB		4C			
Inorganics		HNO_3			
Explosives		4C			
TPH		H_2SO_4			
TOC		H_2SO_4			
Nitrate		H_2SO_4			

Notes:

NOT sampled due to well integrity. Bob Burns noted that the well cap had been vandalized.

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Point of Interest: SA 02
Project Number: 02530.05
Date: 12-7/98
Sample Location ID: OLD-02-04
Time: Start: 1045 End: 1215
Signature of Sampler: WDO

Water Level/Well Data

Well Depth 15.00 ft. X Measured ___ Historical

X Top of Well ___ Top of Protective Casing

Well Riser Stick-up (from ground) FM ft.

Protective Casing/Well Difference ___ ft.

Protective Casing ___ ft.

Depth to Water 12.30 ft.

Well Material: X PVC ___ SS

Well Locked?: X Yes ___ No

Well Dia. X 2 inch ___ 4 inch ___ 6 inch

Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 2.70 ft. X [X .16 Gal/ft. (2 in.) / ___ .65 Gal/ft. (4 in.) / ___ 1.5 Gal/ft. (6 in.) / ___ Gal/ft. (__ in.)] = 0.44 Gal/Vol; 3 Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure	X	
Concrete Collar Intact	X	
Other ___		

Equipment Documentation

Purging/Sampling Equipment Used:

Purging (✓ If Used For)	Sampling (✓ If Used For)		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
X	X	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)
- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- X Deionized Water
- ___ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

Ambient Air VOC NR ppm Well Mouth NR ppm

Field Data Collected ___ In-line X In Container

Sample Observations: ___ Turbid X Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ ___ Gal.	@ INIT Gal.	@ 3/4 Gal.	@ 1 Gal.	@ 3 Gal.
Temperature, Deg. C		27.4	27.8	27.8	27.2
pH, units		6.33	6.22	6.14	6.17
Specific Conductivity (umhos/cm @ 25 Deg. C)		140	145	145	145
Oxidation - Reduction, +/- mv		-1.2	32.5	42.2	47.1
~~Dissolved Oxygen, ppm~~ NTU		31.7	8.24	8.41	7.45

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL			
SVOA		4OC			
Pest/PCB		4OC			
Inorganics		HNO_3			
Explosives		4°C			
TPH		H_2SO_4			
TOC		H_2SO_4			
Nitrate		H_2SO_4			

Notes:

02G00403
2x 40ml w/HCL = VOC
2x 40ml w/HCL = Diss. gases
2x 40ml w/H_2SO_4 = TOC

Project: BRAC NTC, Orlando, Group I, Site Screening		**Well ID:** OLD-02-05A	**Boring ID:** 02B005
Client: SOUTHNAVFACENGCOM	**Contractor:** Groundwater Protection, Inc.		**Job No.:** CTO-107
Northing: 1531054.3869	**Easting:** 552727.9246	**Date started:** 09/06/94	**Compltd:** 09/06/94
Method: 4.25" Hollow stem auger	**Casing dia.:** 2 in.	**Screened int.:** 3-13 ft. bls	**Protection level:** D
TOC elev.: 112.89 Ft.	**Type of OVM:** Porta FID	**Total dpth:** 13.5Ft.	**Dpth to** ∇ 7.0± Ft.
ABB Rep.: S. Grietens	**Well development date:** 09/09/94		**Site:** Study Area 02

Depth Ft.	Laboratory Sample ID.	Sample	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
0					QUARTZ SAND: Brown/black/gray, fine grained, good sorting, good rouding, with trace organics.		SP	posthole	
4			40%	0				1,1/18"	
5									
6			20%	0				2,2,5,6	
8	02B00501		25%	0				5,8,9,12	
10			75%	0				4,17,18,14	
12			50%	0				6,8,9,8	
15									

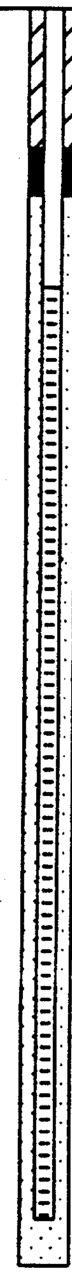

 ABB ENVIRONMENTAL SERVICES, INC.

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Point of Interest: SA 2
Project Number: 2530.05
Date: 6-14-95
Sample Location ID: OLD-02-05
Time: Start: 1130 End: 1230
Signature of Sampler: Mac Tidor for B. Burns

Water Level/Well Data

Well Depth 12.08 Ft. ✓ Measured ___ Historical

___ Top of Well ___ Top of Protective Casing

Well Riser Stick-up NA Ft. (from ground)

Protective ___ Ft. Casing/Well Difference

Protective ___ Ft. Casing

Depth to Water 9.80 Ft.

Well Material: ✓ PVC ___ SS

Well Locked?: ___ Yes ___ No

Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch

Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 2.28 Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.) = [.365 Gal/Vol ___ Total Gal Purged]

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other		

Equipment Documentation

Purging/Sampling Equipment Used:

Purging (✓ If Used For)	Sampling (✓ If Used For)		Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
✓	✓	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)

___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

Ambient Air VOC NA ppm Well Mouth 6 ppm

Field Data Collected ___ In-line ✓ In Container

Sample Observations: ___ Turbid ✓ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 3.0 Gal.	@ 14.0 Gal.	@ 20.7 Gal.	@ 27.3 Gal.	@ 30.7 Gal.
Temperature, Deg. C	27.5	27.5	27.5	27.5	27.5
pH, units	5.62	5.80	5.86	5.82	5.87
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	240	230	215	230	235
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm					

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCl	NA	✓	02 / G / 005 / 02
SVOA		4OC		✓	02 / G / 005 / 02 MS
Pest/PCB		4OC		✓	02 / G / 005 / 02 MSD
Inorganics		HNO_3			
Explosives		4°C			
TPH		H_2SO_4		✓	
TOC		H_2SO_4		✓	
Nitrate		H_2SO_4			

Notes:

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Point of Interest: SA 02
Project Number: 02530.05
Date: 12-3/98
Sample Location ID: OLD-02-05A
Time: Start: 1505 End: 1620
Signature of Sampler: [illegible]

Water Level/Well Data

Well Depth 12.00 Ft. — X Measured / ___ Historical — X Top of Well / ___ Top of Protective Casing
Well Riser Stick-up (from ground) FM Ft.
Protective Casing/Well Difference ___ Ft.
Protective Casing ___ Ft.

Depth to Water 10.41 Ft.
Well Material: X PVC / ___ SS
Well Locked?: X Yes / ___ No
Well Dia. X 2 inch / ___ 4 inch / ___ 6 inch
Water Level Equip. Used: X Elect. Cond. Probe / ___ Float Activated / ___ Press. Transducer

Height of Water Column 1.59 Ft. X
X .16 Gal/Ft. (2 in.)
___ .65 Gal/Ft. (4 in.)
___ 1.5 Gal/Ft. (6 in.)
___ Gal/Ft. (__ in.)
= 0.26 Gal/Vol
1 Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure	+	
Concrete Collar Intact	+	
Other		

Equipment Documentation

Purging/Sampling Equipment Used:

Purging	Sampling	Equipment	Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
X	X	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used: (✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
X Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

Ambient Air VOC NR ppm Well Mouth NR ppm
Field Data Collected ___ In-line / X In Container
Sample Observations: ___ Turbid X Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ ___ Gal.	@ init Gal.	@ 1/2 Gal.	@ 3/4 Gal.	@ 1 Gal.
Temperature, Deg. C		25.0	27.6	27.3	27.6
pH, units		5.93	6.03	6.03	6.04
Specific Conductivity ~~(umhos/cm @ 25 Deg. C)~~		520	600	600	600
Oxidation - Reduction, +/- mv		64.1	70.3	80.0	82.7
~~Dissolved Oxygen, ppm~~ NTU		34.3	5.63	3.74	2.71

Sample Collection Requirements
(✓ if Required at this Location)

Analytical Parameter	✓ if Field Filtered	Preservation Method	Volume Required	✓ if Sample Collected	Sample Bottle IDs
VOA		HCL			/ / /
SVOA		4C			/ / /
Pest/PCB		4C			/ / /
Inorganics		HNO_3			/ / /
Explosives		4C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4			/ / /
Nitrate		H_2SO_4			/ / /

Notes:

02G00503
3x 40ml w/HCL = VOC
2x 40ml w/HCL = Diss. gases
2x 40ml w/H_2SO_4 = TOC

Project: BRAC NTC, Orlando, Group I, Site Screening	**Well ID:** OLD-02-06A	**Boring ID:** 02B006
Client: SOUTHNAVFACENGCOM	**Contractor:** Groundwater Protection, Inc.	**Job No.:** CTO-107
Northing: 1530647.2638	**Easting:** 553328.2674 / **Date started:** 09/07/94	**Compltd:** 09/07/94
Method: 4.25" Hollow stem auger	**Casing dia.:** 2 in. / **Screened int.:** 3-13 ft. bls	**Protection level:** D
TOC elev.: 109.17 Ft.	**Type of OVM:** Porta FID / **Total dpth:** 13.5Ft.	**Dpth to** ▽ 6.0± Ft.
ABB Rep.: S. Grietens	**Well development date:** 09/07/94	**Site:** Study Area 02

Depth Ft.	Laboratory Sample ID.	Sample	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
0					QUARTZ SAND: Brown/tan, fine grained, good sorting, good rounding, trace organics, with some glass debris.		SP	posthole	
2					QUARTZ SAND: Cream/buff, clean, fine grained, good sorting, good rounding, with trace phosphates.				
4			70%	0				4,4,4,4	
5									
6	02B00601		60%	0	QUARTZ SAND: Brown/black, fine grained, same as 2 to 6 feet with trace silts.			3,3,3,4	
8			70%	0				5,5,10,9	
10			70%	0				5,8,10,9	
12			100%	0				5,8,4,7	
15									

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Point of Interest: SA Ø2
Project Number: 025 30.05
Date: 11-19/98
Sample Location ID: OLD-02-06A
Time: Start: 1515 End: 1700
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth 12.82 Ft. X Measured ___ Historical
X Top of Well ___ Top of Protective Casing
Well Riser Stick-up FM Ft. (from ground)
Protective ___ Ft. Casing/Well Difference
Protective ___ Ft. Casing

Depth to Water 7.11 Ft.
Well Material: X PVC ___ SS
Well Locked?: X Yes ___ No
Well Dia. X 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 5.71 Ft. X
X .16 Gal/Ft. (2 in.)
___ .65 Gal/Ft. (4 in.)
___ 1.5 Gal/Ft. (6 in.)
___ Gal/Ft. (__ in.)
= 0.91 Gal/Vol
5 Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other		

Equipment Documentation

Purging/Sampling Equipment Used:

Purging (✓ If Used For)	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
X	X	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
X Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

Ambient Air VOC NR ppm Well Mouth NR ppm
Field Data Collected ___ In-line X In Container
Sample Observations: ___ Turbid ___ Colored ___ Clear ___ Odor X Cloudy

Purge Data	@ 1 Gal.	@ 2 Gal.	@ 3 Gal.	@ 4 Gal.	@ 5 Gal.
Temperature, Deg. C	26.4	26.2	26.3	26.2	26.2
pH, units	6.53	6.44	6.50	6.57	6.60
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	180	180	172	172	170
Oxidation - Reduction, +/- mv	21.5	-5.0	-18.2	-14.5	-12.4
~~Dissolved Oxygen, ppm~~ NTU	15.74	18.08	23.2	28.0	31.7

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL			/ / /
SVOA		4OC			/ / /
Pest/PCB		4OC			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4			/ / /
Nitrate		H_2SO_4			/ / /

Notes:

02G00603
3x40ml w/HCL = VOC
2x40ml w/HCL = Diss. gases
2x40 ml w/H_2SO_4 = TOC

Project: BRAC NTC, Group I, Site Screening	**Well ID:** OLD-02-07C	**Boring ID:** 02B007
Client: SOUTHNAVFACENGCOM	**Contractor:** Groundwater Protection, Inc.	**Job No.:** CTO-107
Northing: 1531522.58	**Easting:** 552786.75 · **Date started:** 02/08/94	**Compltd:** 02/12/94
Method: 6.25" Hollow stem auger	**Casing dia.:** 2 in. · **Screened int.:** 57-62 ft. bls	**Protection level:** D
TOC elev.: 111.52 Ft.	**Type of OVM:** Porta FID · **Total dpth:** 64Ft.	**Dpth to** ▽ 10 ± Ft.
ABB Rep.: S. Grietens	**Well development date:** 02/12/94	**Site:** Study Area 02

Depth Ft.	Laboratory Sample ID.	Sample	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
0			ph	0	QUARTZ SAND: Gray to dark gray, slightly silty, trace organics, medium-grained, good sorting, good to moderate rounding, occasional alternating gray to black 1/2" to 1/4" thick laminae between 2' to 4'.		SP	posthole	
			ph	0				posthole	
			80%	0				1,2,1,2	
5			80%	0	QUARTZ SAND: White to off white, clean, fine-to medium-grained, even sorting, good to moderate rounding.			1,2,2,1	
			100%	3	SILTY QUARTZ SAND: Brown to black, fine-to medium-grained, good sorting, good rounding.		SM	4,4,3,4	
10			90%	3				4,3,2,4	
			100%	5				3,5,8,10	
			100%	10	CLAYEY SAND: Black, fine-to medium-grained, good sorting, firm, moderate plasticity, moist.		SC	4,5,7,9	
15			100%	0	CLAYEY SAND: Black, trace clay, silty, very hard, some organic silts, slight odor.			6,5,7,5	
			100%	6				2,8,16,5	
20			100%	0				3,7,21,25	
			90%	0	CLAYEY SAND: Black, soft, clean, slight odor, slight reddish tint.			1,8,15,8	
			100%	5				8,18,25,46	
25			95%	2				1,2,5,10	
			100%	3				1,4,14,31	
30			100%	0				5,6,17,35	
			95%	7	SILTY QUARTZ SAND: Brown, fine-grained, good sorting, appears good to moderate rounding.		SM	4,11,15,25	
35			95%	0				4,8,12,21	

 ABB ENVIRONMENTAL SERVICES, INC.

Project: BRAC NTC, Group I, Site Screening	**Well ID:** OLD-02-07C	**Boring ID:** 02B007
Client: SOUTHNAVFACENGCOM	**Contractor:** Groundwater Protection, Inc.	**Job No.:** CTO-107
Northing: 1531522.58	**Easting:** 552786.75 / **Date started:** 02/08/94	**Compltd:** 02/12/94
Method: 6.25" Hollow stem auger	**Casing dia.:** 2 in. / **Screened int.:** 57-62 ft. bls	**Protection level:** D
TOC elev.: 111.52 Ft.	**Type of OVM:** Porta FID / **Total dpth:** 64Ft.	**Dpth to** ∇ 10 ‡ Ft.
ABB Rep.: S. Grietens	**Well development date:** 02/12/94	**Site:** Study Area 02

Continued from PAGE 1

Depth Ft.	Laboratory Sample ID.	Recovery	Headspace (ppm)	Soil class.	Blows/6-in.
		95%	10	SM	1,8,8,13
		90%	0		2,4,7,16
40		25%	15	SP	5,11,17,21
		60%	0		4,3,5,9
		60%	0		3,3,3,10
45		70%	0		2,3,2,4
		60%	0		woh,7,11
50		40%	0		4,3,7,8
		90%	5		3,6,11,9
		95%	3		1,2,6,9
55		75%	4		1,2,3,6
		75%	0		1,3,5,15
60		80%	0		1,2,4,4
		30%	0	CL	2,2,2,3
		95%			
65					
70					

Soil/Rock Description and comments

SILTY QUARTZ SAND: Brown to green, alternating with sandy silt, fine-grained, leaning toward clayey.

QUARTZ SAND: Brown to tan, slightly silty, fine-to medium grained, good sorting, good to moderate rounding.

QUARTZ SAND: Dark brown, trace silts, fine-to medium-grained, loose, trace coarse-grained phosphates, trace clayey sand, lens - brown to gray.

QUARTZ SAND: Gray to dark gray, fine-grained, slightly clayey, loose, good sorting, trace phosphates.

SANDY CLAY: Gray, fine-grained sand, quartz, good sorting, medium stiff clay, moderate to good plasticity.

‡ = approximate depth

 ABB ENVIRONMENTAL SERVICES, INC.

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Project Number: 2530.05
Sample Location ID: OLD-02-07
Time: Start: 0800 End: 0930

Point of Interest: SA2
Date: 3-10-95
Signature of Sampler: Mark Tobias for T. Cramer

Water Level/Well Data

Well Depth N/A Ft. ___ Measured ___ Historical

___ Top of Well ___ Top of Protective Casing

Well Riser Stick-up N/A Ft. (from ground)

Protective ___ Ft. Casing/Well Difference

Protective ___ Ft. Casing

Depth to Water 9.13 Ft.

Well Material: ___ PVC ___ SS

Well Locked?: ___ Yes ___ No

Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch

Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column ___ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.) = ___ Gal/Vol ___ Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling		Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
✓	✓	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)

___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

Ambient Air VOC NA ppm Well Mouth 0 ppm

Field Data Collected ___ In-line ___ In Container

Sample Observations: ___ Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ NA Gal.	@ NA Gal.	@ NA Gal.	@ NA Gal.	@ NA Gal.
Temperature, Deg. C	22.5	24.0	23	23	23
pH, units	~~24.0~~ 5.77	5.55	5.43	5.42	5.38
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	212	182	172	172	172
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm					

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL	NA	✓	
SVOA		4OC		✓	
Pest/PCB		4OC		✓	
Inorganics		HNO_3			
Explosives		4OC			
TPH		H_2SO_4		✓	
TOC		H_2SO_4		✓	
Nitrate		H_2SO_4			

Notes:

no sample ID's in log book
no volumes in log book

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Point of Interest: SA Ø2
Project Number: 02530.65
Date: 12-11/98
Sample Location ID: ~~MBLD-OR-05~~ OLD-02-07C
Time: Start: 0840 End: 1320
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth 62.85 Ft. X Measured ___ Historical
X Top of Well ___ Top of Protective Casing
Well Riser Stick-up FM Ft. (from ground)
Protective ___ Ft. Casing/Well Difference
Protective ___ Ft. Casing

Depth to Water 13.29 Ft.
Well Material: X PVC ___ SS
Well Locked?: X Yes ___ No
Well Dia. X 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 49.56 Ft. X
X .16 Gal/Ft. (2 in.)
___ .65 Gal/Ft. (4 in.)
___ 1.5 Gal/Ft. (6 in.)
___ Gal/Ft. (__ in.)
= 7.94 Gal/Vol
24 Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure	
Concrete Collar Intact	
Other ___	

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
X	X	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)

- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- X Deionized Water
- ___ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

Ambient Air VOC NR ppm Well Mouth NR ppm
Field Data Collected ___ In-line X In Container
Sample Observations: ___ Turbid ___ Colored X Clear ___ Odor ___ Cloudy

Purge Data	@ 15 Gal.	@ 20 Gal.	@ 22 Gal.	@ 23 Gal.	@ 24 Gal.
Temperature, Deg. C	25.3	27.0	27.6	26.7	26.1
pH, units	6.18	5.98	5.93	5.99	6.01
Specific Conductivity	192	190	188	182	180
~~(umhos/cm. @ 25 Deg. C)~~					
Oxidation - Reduction, +/- mv	-29.9	-53.5	-55.4	-51.2	-49.5
~~Dissolved Oxygen, ppm~~ NTU	3.56	3.82	1.56	1.46	1.98

Sample Collection Requirements
(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL			/ / /
SVOA		4OC			/ / /
Pest/PCB		4OC			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4			/ / /
Nitrate		H_2SO_4			/ / /

Notes:

02G00703
3x40ml w/HCL = VOC
2x40ml w/HCL = Diss. Gases
2x40ml w/H_2SO_4 = TOC

Project: BRAC NTC, Group I, Site Screening	Well ID: OLD-02-08C	Boring ID: 02B008
Client: SOUTHNAVFACENGCOM	Contractor: Groundwater Protection, Inc.	Job No.: CTO-107
Northing: 1530831.81	Easting: 552815.08 / Date started: 02/13/95	Compltd: 02/14/95
Method: 6.25" Hollow stem auger	Casing dia.: 2 in. / Screened int.: 60-65 ft.bls	Protection level: D
TOC elev.: 112.31 Ft.	Type of OVM: Porta FID / Total dpth: 66Ft.	Dpth to ▽ 7 [illegible] Ft.
ABB Rep.: W. Olson	Well development date: 02/14/95	Site: Study Area 02

Depth Ft.	Laboratory Sample ID.	Sample	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
			ph	0	SILTY QUARTZ SAND: Tan to brown, good sorting, fine-to medium-grained, good to moderate rounding.		SP	posthole	
			ph	0				posthole	
5			90%	n/a				1,1,2,3	
			90%	3				2,4,5,3	
			90%	2				2,2,3,8	
10			95%	0				4,5,7,8	
			90%	1	SILTY QUARTZ SAND: Black, mostly fine-grained, sub-rounded.		SM	2,3,3,4	
15			90%	0				3,4,6,9	
			100%	1				3,9,14,18	
			90%	0				2,18,22,23	
20			90%	0				3,8,11,12	
			70%	0				3,5,18,23	
25			nr	n/a	SANDY SILT: Dark brownish-gray, fine-to medium-grained, sub-rounded, stiff, silt matrix, trace clay.		ML	9,22,42,50+	
			60%	0	SANDY SILT: Light brown, faint rotten egg odor.			18,21,33,31	
			30%	0				2,4,4,17	
30			50%	0				2,3,9,22	
			90%	0				5,6,10,15	
35			75%	0	SILTY QUARTZ SAND: Medium brown, fine-to medium-grained, sub-rounded, good sorting, non plastic, wet, faint rotten egg odor.		SM	4,6,2,12	

 ABB ENVIRONMENTAL SERVICES, INC.

Project: BRAC NTC, Group I, Site Screening	**Well ID:** OLD-02-08C	**Boring ID:** 02B008
Client: SOUTHNAVFACENGCOM	**Contractor:** Groundwater Protection, Inc.	**Job No.:** CTO-107
Northing: 1530631.81	**Easting:** 552815.08 / **Date started:** 02/13/95	**Compltd:** 02/14/95
Method: 6.25" Hollow stem auger	**Casing dia.:** 2 in. / **Screened int.:** 60-65 ft.bls	**Protection level:** D
TOC elev.: 112.31 Ft.	**Type of OVM:** Porta FID / **Total dpth:** 66Ft.	**Dpth to** ▽ 7 * Ft.
ABB Rep.: W. Olson	**Well development date:** 02/14/95	**Site:** Study Area 02

Continued from PAGE 1

Depth Ft.	Laboratory Sample ID.	Sample	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
			75%	0			SM	2,5,6,7	
			90%	0				2,6,4,5,	
40			80%	0				2,4,3,4	
			100%	0				1,2,4,3	
			50%	0	SILTY QUARTZ SAND: Medium brown, cleaner, some dark brown clayey sand lenses @ 45.5'bls, some coarse concretions.			2,4,3,6	
45			80%	0				3,3,3,4	
			75%	0				7,7,6,6	
			80%	0	QUARTZ SAND: Tan to brown, fine-to medium-grained, sub-rounded, some tan silt, some black sand, rounded, fine-to medium-grained @ 51'bls.		SP	3,3,5,5	
50			80%	0				4,4,4,6	
			25%	nr				6,6,5,10	
55			nr/10%	0				6,12,12,8	
			nr	n/a				10,6,9,9	
			nr	nr				5,7,8,17	
60			80%	0	QUARTZ SAND: Green to gray, fine-to medium-grained, some silt, non plastic.			woh,7,6,10	
			90%	0				6,16,14,19	
65			90%	0				3,3,2,4	
					SANDY CLAY: Gray, fine-grained sand, good sorting, medium stiff clay, moderate to good plasticity.		CL		
70					* = approximate depth.				

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Point of Interest: SA 2
Project Number: 2530.05
Date: 3-1-95
Sample Location ID: OLD-02-08
Time: Start: 1235 End: 1400
Signature of Sampler: Mal Tucker for B. Burns

Water Level/Well Data

Well Depth 66.83 Ft. ✓ Measured ___ Historical

___ Top of Well
___ Top of Protective Casing

Well Riser Stick-up NA Ft. (from ground)

Protective ___ Ft. Casing/Well Difference

Protective ___ Ft. Casing

Depth to Water 8.42 Ft.

Well Material: ✓ PVC ___ SS

Well Locked?: ✓ Yes ___ No

Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch

Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 58.41 Ft. X ✓ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.) = 9.35 Gal/Vol; 15.0 Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling	Equipment	Equipment ID
		Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
✓	✓	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)

___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

Ambient Air VOC ∅ ppm Well Mouth ∅ ppm

Field Data Collected ___ In-line ___ In Container

Sample Observations: ___ Turbid ___ Colored ___ Clear ___ Odor ___ Cloudy

Purge Data	@ 1.5 Gal.	@ 4.5 Gal.	@ 6.5 Gal.	@ 10.0 Gal.	@ 15.0 Gal.
Temperature, Deg. C	25	26.5	25	25	25
pH, units	5.09	4.85	4.80	4.72	4.74
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	143.0	140	135	135	136
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm					

Sample Collection Requirements

(✓ if Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL	all	✓	02 / 6 / 008 / 01
SVOA		4OC		✓	/ / /
Pest/PCB		4OC		✓	/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4		✓	/ / /
TOC		H_2SO_4		✓	/ / /
Nitrate		H_2SO_4			/ / /

Notes:

GROUNDWATER SAMPLE FIELD DATA

Project: NTC Orlando
Project Number: 02530.05
Sample Location ID: OLD-02-08C
Time: Start: 1215 End: 1445

Point of Interest: SA 02
Date: 11-20/98
Signature of Sampler: William P. Olson

Water Level/Well Data

Well Depth 67.40 Ft. X Measured ___ Historical
X Top of Well ___ Top of Protective Casing

Well Riser Stick-up FM Ft. (from ground)

Protective ___ Ft. Casing/Well Difference

Protective ___ Ft. Casing

Depth to Water 9.31 Ft.

Well Material: X PVC ___ SS

Well Locked?: X Yes ___ No

Well Dia. X 2 inch ___ 4 inch ___ 6 inch

Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 58.09 Ft. X
X .16 Gal/Ft. (2 in.)
___ .65 Gal/Ft. (4 in.)
___ 1.5 Gal/Ft. (6 in.)
___ Gal/Ft. (__ in.)
= 9.3 Gal/Vol
30 Total Gal Purged

Well Integrity: Yes No
Prot. Casing Secure
Concrete Collar Intact
Other

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
X	X	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)

___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
X Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

Ambient Air VOC NR ppm Well Mouth NR ppm

Field Data Collected ___ In-line X In Container

Sample Observations: ___ Turbid X Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 10 Gal.	@ 15 Gal.	@ 20 Gal.	@ 25 Gal.	@ 30 Gal.
Temperature, Deg. C	26.2	25.7	25.4	25.4	25.3
pH, units	5.10	5.01	4.96	4.95	4.96
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	158	165	164	165	170
Oxidation - Reduction, +/- mv	-370.1	-285.0	-306.4	-216.5	-205.8
~~Dissolved Oxygen, ppm~~ NTU	6.76	4.64	6.35	4.27	4.85

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL			/ / /
SVOA		4OC			/ / /
Pest/PCB		4OC			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4			/ / /
Nitrate		H_2SO_4			

Notes:

02G00803
3X 40ml w/HCL = VOC
2X 40ml w/HCL = DISS. GASES
2X 40ml w/H_2SO_4 = TOC

Project: BRAC NTC, Group I, Site Screening	**Well ID:** OLD-02-09A	**Boring ID:** 02B009
Client: SOUTHNAVFACENGCOM	**Contractor:** Groundwater Protection, Inc.	**Job No.:** CTO-107
Northing: 1530831.59	**Easting:** 552827.79 / **Date started:** 02/22/95	**Complt'd:** 02/22/95
Method: 6.25" Hollow stem auger	**Casing dia.:** 2 in. / **Screened int.:** 5-15 ft.bls	**Protection level:** D
TOC elev.: 112.34 Ft.	**Type of OVM:** Porta FID / **Total dpth:** 16Ft.	**Dpth to** ▽ 7 * Ft.
ABB Rep.: W. Olson	**Well development date:** 02/22/95	**Site:** Study Area 02

Depth Ft.	Laboratory Sample ID.	Sample	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Soil class.	Blows/6-in.
0			ph	0	SILTY QUARTZ SAND: Brown, dry. QUARTZ SAND: Off-white, fine-to medium-grained, some silt.	SM / SP	posthole
2			ph	0			posthole
4			100%	0	QUARTZ SAND: Gray to brown, fine-to medium-grained, trace silt, sub-rounded, non plastic, dry.		2,1,2,3
6			80%	0			1,2,3,4
8			90%	0			3,2,4,5
10			80%	0			1,1,2,2
12			90%	0	QUARTZ SAND: Black, fine-to medium-grained, silty, wet, rotten egg odor.		3,3,4,5
14			90%	2			2,4,8,8
16					* = approximate depth.		
20							

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO   Point of Interest: SA 2
Project Number: 2530.05   Date: 3-1-95
Sample Location ID: OLD-02-09
Time: Start: 1300 End: 1500   Signature of Sampler: [signature] for D. Burns

Water Level/Well Data

Well Depth 15.25 Ft. ✓ Measured __ Historical __ Top of Well __ Top of Protective Casing Well Riser Stick-up ____ Ft. (from ground) Protective ____ Ft. Casing/Well Difference

Protective Casing ____ Ft.

Depth to Water 7.97 Ft. Well Material: ✓ PVC __ SS Well Locked?: ✓ Yes __ No Well Dia. ✓ 2 inch __ 4 inch __ 6 inch Water Level Equip. Used: __ Elect. Cond. Probe __ Float Activated __ Press. Transducer

Height of Water Column 7.28 Ft. X ✓ .16 Gal/Ft. (2 in.) __ .65 Gal/Ft. (4 in.) __ 1.5 Gal/Ft. (6 in.) __ __ Gal/Ft. (__ in.) = 1.17 Gal/Vol 20 Total Gal Purged

Well Integrity: | Yes | No
Prot. Casing Secure __ __
Concrete Collar Intact __ __
Other ____

Equipment Documentation

Purging/Sampling Equipment Used:

Purging	Sampling	(✓ If Used For)	Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
		Bailer	
	✓	PVC/Silicon Tubing	
✓	✓	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used: (✓ All That Apply at Location)
- __ Methanol (100%)
- __ 25% Methanol/75% ASTM Type II water
- ✓ Deionized Water
- ✓ Liquinox Solution
- __ Hexane
- __ HNO_3/D.I. Water Solution
- __ Potable Water
- __ None

Field Analysis Data

Ambient Air VOC 0 ppm Well Mouth 0 ppm Field Data Collected __ In-line __ In Container Sample Observations: __ Turbid __ Clear __ Cloudy __ Colored __ Odor

Purge Data	@ 1.5 Gal.	@ 3.0 Gal.	@ 9.0 Gal.	@ 15.0 Gal.	@ 20.0 Gal.
Temperature, Deg. C	23.0	28	24	24	22
pH, units	6.24	6.0	6.41	6.22	6.21
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	190	199	220	218	218
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm					

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL	NA	✓	02 / G / 009 / 01
SVOA		4OC		✓	/ / /
Pest/PCB		4OC		✓	/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4		✓	/ / /
TOC		H_2SO_4		✓	/ / /
Nitrate		H_2SO_4			/ / /

Notes:

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Point of Interest: SA Ø2
Project Number: 02530.05
Date: 12-20/98
Sample Location ID: OLD-02-09L
Time: Start: 1200 End: 1410
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth 15.23 Ft. X Measured ___ Historical
X Top of Well ___ Top of Protective Casing
Well Riser Stick-up FM Ft. (from ground)
Protective Casing/Well Difference ___ Ft.
Protective Casing ___ Ft.

Depth to Water 8.97 Ft.
Well Material: X PVC ___ SS
Well Locked?: X Yes ___ No
Well Dia. X 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 6.26 Ft. X
X .16 Gal/Ft. (2 in.)
___ .65 Gal/Ft. (4 in.)
___ 1.5 Gal/Ft. (6 in.)
___ Gal/Ft. (__ in.)
= 1 Gal/Vol
3 Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure	X	
Concrete Collar Intact	X	
Other ___		

Equipment Documentation

Purging/Sampling Equipment Used:

Purging	Sampling	Equipment	Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
X	X	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

(✓ If Used For)

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
X Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

Ambient Air VOC NR ppm Well Mouth NR ppm
Field Data Collected ___ In-line X In Container
Sample Observations: ___ Turbid ___ Colored ___ Clear ___ Odor X Cloudy

Purge Data	@ init Gal.	@ 1/2 Gal.	@ 1.5 Gal.	@ 2 Gal.	@ 3 Gal.
Temperature, Deg. C	27.9	27.4	27.1	27.3	27.5
pH, units	6.66	6.65	6.57	6.62	6.39
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	179	190	180	180	182
Oxidation - Reduction, +/- mv	25.9	43.2	64.1	66.0	96.0
~~Dissolved Oxygen, ppm~~ NTU	35.0	76.3	27.0	678.8	~~96.0~~ 91.1

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL			
SVOA		4oC			
Pest/PCB		4oC			
Inorganics		HNO_3			
Explosives		4°C			
TPH		H_2SO_4			
TOC		H_2SO_4			
Nitrate		H_2SO_4			

Notes:

02G00903
3X 40ml w/HCL = VOC
2X 40ml w/HCL = Diss. Gases
2X 40ml w/H_2SO_4 = TOC

Project: BRAC NTC, Group I, Site Screening		**Well ID:** OLD-02-10C	**Boring ID:** 02B010
Client: SOUTHNAVFACENGCOM	**Contractor:** Groundwater Protection, Inc.		**Job No.:** CTO-107
Northing: 1530933.54	**Easting:** 553356.32	**Date started:** 02/22/95	**Compltd:** 02/23/95
Method: 6.25" Hollow stem auger	**Casing dia.:** 2 in.	**Screened int.:** 52-57 ft. bls	**Protection level:** D
TOC elev.: 108.90 Ft.	**Type of OVM:** Porta FID	**Total dpth:** 58Ft.	**Dpth to ∇** 10 ± Ft.
ABB Rep.: W. Olson	**Well development date:** 02/23/95		**Site:** Study Area 02

Depth Ft.	Laboratory Sample ID.	Sample	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
0			ph	0	SILTY QUARTZ SAND: Dark brown, fine-to medium-grained, sub-rounded, non plastic.		SM	posthole	
2			ph	0				posthole	
4			100%	0	QUARTZ SAND: Tan, slightly silty, medium-grained, non plastic.		SP	1,1,1,1	
6			80%	0				1,1,1,1	
8			50%	0				3,6,4,3	
10			80%	0				3,4,4,4	
12			100%	0				1,3,2,3	
14			100%	0				3,3,11,14	
16			80%	2	SILTY QUARTZ SAND: Dark gray, some plant debris.		ML	2,11,11,18	
18			50%	5	SILTY QUARTZ SAND: Gray, clayey, stiff, damp.			3,7,17,13	
20			80%	0	SILTY QUARTZ SAND: White to tan sand lens @20.5' to 23.5'.			5,3,9,15	
22			70%	1				9,11,14,14	
24			70%	1				9,9,9,10	
26			80%	1				3,3,3,2	
28			80%	1	CLAYEY SILT: Gray, trace sand, moist, slightly plastic, some sandy horizons.			2,1,2,1	
30				0				1,2,2,1	

 ABB ENVIRONMENTAL SERVICES, INC.

Project: BRAC NTC, Group I, Site Screening	Well ID: OLD-02-10C	Boring ID: 02B010
Client: SOUTHNAVFACENGCOM	Contractor: Groundwater Protection, Inc.	Job No.: CTO-107
Northing: 1530933.54	Easting: 553358.32 / Date started: 02/22/95	Compltd: 02/23/95
Method: 6.25" Hollow stem auger	Casing dia.: 2 in. / Screened int.: 52-57 ft. bls	Protection level: D
TOC elev.: 106.90 Ft.	Type of OVM: Porta FID / Total dpth: 58Ft.	Dpth to ∇ 10 * Ft.
ABB Rep.: W. Olson	Well development date: 02/23/95	Site: Study Area 02

Continued from PAGE 1

Recovery	Headspace (ppm)	Blows/6-in.
60%	1	1,1,1,1
60%	1	1,1,1,1
80%	2	3,1,2,4
70%	1	3,1,3,2
60%	1	1=2'
80%	1	1,2,1,4
60%	0	1,2,3,5
60%	1	2,5,9,9
80%	0	3,4,5,10
80%	0	3,5,8,10
90%	0	3,7,1,3
90%	0	1,2,1,1
80%	0	1,1,1,1
70%		

Depth Ft.: 35, 40, 45, 50, 55, 60

ML — SANDY SILT: Gray, slightly plastic, wet, some clay.

SM — SILTY QUARTZ SAND: Gray, medium-grained, sub-rounded, non plastic, wet, lens of tan silty fine sand from 40' to 41'bls.

SP — QUARTZ SAND: Greenish-gray, medium-grained, trace silt, some black clasts.

SC — CLAYEY SAND: Greenish-gray, fine-to medium-grained, slightly plastic, some brown fine gravel-sized chert clasts.

* = approximate depth

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Point of Interest: SA 2
Project Number: 2530.05
Date: 3-1-95
Sample Location ID: OLD-02-10
Time: Start: 1620 End: 1720
Signature of Sampler: Mal Toler for Bob Bi...

Water Level/Well Data

Well Depth 56.27 Ft. ✓ Measured ___ Historical
___ Top of Well
___ Top of Protective Casing
Well Riser Stick-up NA Ft. (from ground)
Protective ___ Ft. Casing/Well Difference
Protective ___ Ft. Casing

Depth to Water 9.15 Ft.
Well Material: ✓ PVC ___ SS
Well Locked?: ___ Yes ___ No
Well Dia. ✓ 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 47.12 Ft. X ✓ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.) = 7.54 Gal/Vol; 12.0 Total Gal Purged

Well Integrity: Yes / No
Prot. Casing Secure
Concrete Collar Intact
Other

Equipment Documentation

Purging/Sampling Equipment Used:

Purging (✓ If Used For)	Sampling	Equipment	Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
✓	✓	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:
(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

Ambient Air VOC ∅ ppm Well Mouth ∅ ppm
Field Data Collected ___ In-line ___ In Container
Sample Observations: ___ Turbid ___ Colored ___ Clear ___ Odor ✓ Cloudy

Purge Data	@ 1.0 Gal.	@ 5.0 Gal.	@ 7.5 Gal.	@ 10.0 Gal.	@ 12.0 Gal.
Temperature, Deg. C	24.5	24.5	24.0	24.0	24.0
pH, units	5.12	5.11	5.07	4.99	5.04
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	209	203	202	202	200
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm					

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL	NA	✓	02 / 6 / 010 / 01
SVOA		4oC		✓	/ / /
Pest/PCB		4oC			/ / /
Inorganics		HNO_3			/ / /
Explosives		4oC			/ / /
TPH		H_2SO_4		✓	/ / /
TOC		H_2SO_4		✓	/ / /
Nitrate		H_2SO_4			/ / /

Notes:

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Project Number: 02530.05
Sample Location ID: OLD-02-H 10C
Time: Start: 0900 End: 1145
Point of Interest: SA 02
Date: 11-20/98
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth 57.18 Ft. X Measured ___ Historical

X Top of Well ___ Top of Protective Casing

Well Riser Stick-up FM Ft. (from ground)

Protective ___ Ft. Casing/Well Difference

Protective ___ Ft. Casing

Depth to Water 9.71 Ft.

Well Material: X PVC ___ SS

Well Locked?: X Yes ___ No

Well Dia. X 2 inch ___ 4 inch ___ 6 inch

Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 47.47 Ft. X [X .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.)] = 7.6 Gal/Vol; 26 Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure	X	
Concrete Collar Intact	X	
Other ___		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling	Equipment	Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
X	X	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)

- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- X Deionized Water
- ___ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

Ambient Air VOC NR ppm Well Mouth NR ppm

Field Data Collected ___ In-line X In Container

Sample Observations: ___ Turbid X Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 10 Gal.	@ 15 Gal.	@ 20 Gal.	@ 25 Gal.	@ 26 Gal.
Temperature, Deg. C	25.1	25.6	25.6	25.6	25.6
pH, units	6.25	5.92	5.82	5.77	5.85
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	230	210	205	202	202
Oxidation - Reduction, +/- mv	-179.7	-158.5	-164.3	-161.8	-157.5
~~Dissolved Oxygen, ppm~~ NTU	6.24	4.12	4.55	3.32	2.05

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL			
SVOA		4OC			
Pest/PCB		4OC			
Inorganics		HNO_3			
Explosives		4°C			
TPH		H_2SO_4			
TOC		H_2SO_4			
Nitrate		H_2SO_4			

Notes:

02G01103
02G01103D

3 x 40ml w/HCL = VOC
2 x 40ml w/HCL = Diss. gases
2 x 40ml w/H_2SO_4 = TOC

Project: BRAC NTC, Group I, Site Screening	**Well ID:** OLD-02-11A	**Boring ID:** 028011
Client: SOUTHNAVFACENGCOM	**Contractor:** Groundwater Protection, Inc.	**Job No.:** CTO-107
Northing: 1530925.49	**Easting:** 553357.01 / **Date started:** 02/22/95	**Compltd:** 02/22/95
Method: 6.25" Hollow stem auger	**Casing dia.:** 2 in. / **Screened int.:** 5-15 ft.bls	**Protection level:** D
TOC elev.: 107.14 Ft.	**Type of OVM:** Porta FID / **Total dpth:** 16Ft.	**Dpth to** ∇ 7 * Ft.
ABB Rep.: W. Olson	**Well development date:** 02/22/95	**Site:** Study Area 02

Depth Ft.	Laboratory Sample ID.	Sample	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
0			ph	0	SILTY QUARTZ SAND: Dark brown, fine-to medium-grained, sub-rounded, non plastic, moist, trace clay.		SM	posthole	
			ph	0				posthole	
			100%	0				1,1,1,1	
5			80%	0	QUARTZ SAND: Gray to brown, fine-to medium-grained, sub-rounded, wet.		SP	1,1,1,1	
			50%	0	SILTY QUARTZ SAND: Brown, some wood debris, wet, clay lense @15'bls.		SM	3,6,4,3	
10			80%	0				3,4,4,4	
			100%	0				1,3,2,3	
15			100%	0				3,3,4,4	
20					* = approximate depth.				

 ABB ENVIRONMENTAL SERVICES, INC.

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Point of Interest: SA 2
Project Number: 2530.05
Date: 3-1-95
Sample Location ID: OLO-02-11
Time: Start: 1615 End: 1715
Signature of Sampler: Mark Tolan for B Burns

Water Level/Well Data

Well Depth 12.82 Ft. ✓ Measured ___ Historical ___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up ___ Ft. (from ground)
Protective ___ Ft. Casing/Well Difference
Protective ___ Ft. Casing

Depth to Water 6.23 Ft.
Well Material: ✓ PVC ___ SS
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 10.59 Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__in.) = 1.05 Gal/Vol; 6.5 Total Gal Purged

Well Integrity: | Yes | No
Prot. Casing Secure
Concrete Collar Intact
Other

Equipment Documentation

Purging/Sampling Equipment Used:

Purging	Sampling	Equipment	Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
✓	✓	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:
(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

Ambient Air VOC ___ ppm Well Mouth ___ ppm Field Data Collected ___ In-line ___ In Container
Sample Observations: ___ Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 0.5 Gal.	@ 2.5 Gal.	@ 3.5 Gal.	@ 4.5 Gal.	@ 6.5 Gal.
Temperature, Deg. C	23	22.5	22.5	22.5	22.5
pH, units	5.35	5.07	5.15	5.14	5.09
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	132	125	126	126	128
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm					

Sample Collection Requirements
(✓ if Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL	NA	✓	02 - G - 011 - 01
SVOA		4C		✓	
Pest/PCB		4C			
Inorganics		HNO_3			
Explosives		4°C			
TPH		H_2SO_4		✓	
TOC		H_2SO_4			
Nitrate		H_2SO_4			

Notes:

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Project Number: 02530105
Sample Location ID: OLD-02-~~10~~ 11A
Time: Start: 0915 End: 1045

Point of Interest: SA 02
Date: 11-20/98
Signature of Sampler: William D. Olson

Water Level/Well Data

Well Depth 12.89 Ft. X Measured ___ Historical — X Top of Well ___ Top of Protective Casing

Well Riser Stick-up (from ground) FM Ft.

Protective Casing/Well Difference ___ Ft.

Protective Casing ___ Ft.

Depth to Water 6.90 Ft.

Well Material: X PVC ___ SS

Well Locked?: X Yes ___ No

Well Dia. X 2 inch ___ 4 inch ___ 6 inch

Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 5.99 Ft. X — X .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.) = 0.96 Gal/Vol — 5 Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure	X	
Concrete Collar Intact	X	
Other		

Equipment Documentation

Pumping/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
X	X	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
X Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

Ambient Air VOC NR ppm Well Mouth NR ppm Field Data Collected ___ In-line X In Container

Sample Observations: X Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 1 Gal.	@ 2 Gal.	@ 3 Gal.	@ 4 Gal.	@ 5 Gal.
Temperature, Deg. C	25.6	25.5	25.3	25.8	25.4
pH, units	5.87	5.60	5.55	5.59	5.50
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	100	72	74	70	72
Oxidation - Reduction, +/- mv	67.3	96.5	119.0	41.1	95.9
~~Dissolved Oxygen, ppm~~ NTU	152.1	69.0	72.4	89.0	71.1

Filtered = 202 NTU

Sample Collection Requirements
(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL			/ / /
SVOA		4OC			/ / /
Pest/PCB		4OC			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4			/ / /
Nitrate		H_2SO_4			/ / /

Notes:
02G01003
3 x 40ml w/HCL = VOC
2 x 40ml w/HCL = Diss. gases
2 x 40ml w/H_2SO_4 = TOC

Project: BRAC NTC, Orlando, Group I, Site Screening	**Well ID:** OLD-02-12C	**Boring No.:** OLD-02-12C
		Job No.: CTO-107
Client: SOUTHNAVFACENGCOM		
Contractor: Custom	**Date started:** 08/12/97	**Complpt'd:** 08/12/97
Method: Hollow Stem Auger	**Casing Size:** NA	**Screen Int.:** 53-58 ft. bls	**Protection level:** D
Ground Elev.: NA	**Type of OVM.:** Porta FID	**Total depth:** 66Ft.	**Dpth to ∇** 9 Ft.
Logged by: PGM	**Well Development Date:**		**Site:** Study Area 02

Depth Ft.	Sample ID (Depth) (Type)	Split Spoon	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.
0–4					Post-hole to 4 feet.			
5			100%	0	Gray to light brown silty sand. Poorly sorted, soft, loose. Wet below 9 feet bls.		SP	5,5,8,7
			100%	0				7,8,6,6
			100%	0				9,5,6,6
10			100%	0	Black, organic-rich, silty sand. Cemented throughout. Hard, brittle.		OL/SP	10,12,7,11
			100%	0				11,9,10,9
15			80%	0				6,7,10,9
			30%	0	Light gray to light brown clayey, sandy silt. Percentage of clay increases with depth. Becomes softer, looser with depth.		SM	16,35,51,50
			60%	0				14,21,34,57
20			50%	0				11,21,22,19
			10%	0				10,12,14,14
25			0	NA				5,6,7,8
			20%	0				12,17,24,27
			20%	0				11,15,12,21
30			25%	0				9,11,17,21
			30%	0				10,11,17,22
35			30%	0				5,10,11,14

Project: BRAC NTC, Orlando, Group I, Site Screening	**Well ID:** OLD-02-12C	**Boring No.:** OLD-02-12C
ent: SOUTHNAVFACENGCOM		**Job No.:** CTO-107
Contractor: Custom	**Date started:** 08/12/97	**Compltd:** 08/12/97
Method: Hollow Stem Auger	**Casing Size:** NA	**Screen Int.:** 53-58 ft. bls
Protection level: D	**Ground Elev.:** NA	**Type of OVM.:** Porta FID
Total depth: 66Ft.	**Dpth to ▽** 9 Ft.	
Logged by: PGM	**Well Development Date:**	**Site:** Study Area 02

Depth Ft.	Sample ID (Depth) (Type)	Split Spoon	Recovery	Headspace (ppm)	Soil/Rock Description and comments Continued from PAGE 1	Lithologic symbol	Soil class.	Blows/6-in.
			30%				SM	
			25%	0	Tan to brown silty sand. Poorly sorted. Loose.		SP	7,10,13,22
			30%	12				8,10,11,15
40			50%	0				11,14,25,25
			50%	0				7,9,14,23
45			50%	0				4,5,8,11
			50%	0				9,10,12,17
			75%	5				18,12,16,22
50			75%	0	Olive green silty fine- to coarse-grained sand. Poorly sorted. Loose, wet. (Hawthorn)			10,15,21,29
			0	NA				7,8,10,13
55			100%	0				7,9,11,14
			50%	0				10,14,16,12
			50%	0				9,13,13,18
60			50%	0				20,19,18,26
			80%	0	Olive green silty, sandy clay with phosphate nodules. Soft, low plasticity.		ML	2,1,1,3
65			90%	0				1,2,2,1
					TD			
70								

 ABB ENVIRONMENTAL SERVICES, INC.

GROUNDWATER SAMPLE FIELD DATA

Project: NTC - ORLANDO
Project Number: 2530.05
Sample Location ID: 02G01201
Time: Start: 1300 End: 1701
Point of Interest: SA-2 / 0LD-02-12C
Date: 8/22/97
Signature of Sampler: [illegible] B.B[illegible]

Water Level/Well Data

Well Depth 58.04 Ft. X Measured ___ Historical | X Top of Well ___ Top of Protective Casing | Well Riser Stick-up (from ground) 0 Ft. | Protective Casing/Well Difference NA Ft. | Protective Casing ___ Ft.

Depth to Water 13.18 Ft. | Well Material: X PVC ___ SS | Well Locked?: X Yes ___ No | Well Dia. X 2 inch ___ 4 inch ___ 6 inch | Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 45 Ft. X [X .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.)] = 7.2 Gal/Vol; 25 NA PGM Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure	X	
Concrete Collar Intact	X	
Other	X	

Equipment Documentation

Purging/Sampling Equipment Used:

Purging	Sampling	(✓ If Used For)	Equipment ID
X		Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used: (✓ All That Apply at Location)

- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- X Deionized Water
- X Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- X Potable Water
- ___ None

Field Analysis Data

Ambient Air VOC NA ppm Well Mouth NA ppm
Field Data Collected ___ In-line X In Container
Sample Observations: ___ Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 3 Gal.	@ 7.5 Gal.	@ 11 Gal.	@ 17 Gal.	@ 25 Gal.
Temperature, Deg. C	25.8	24.9	26.2	24.6	24.8
pH, units	4.96	5.06	5.05	5.19	5.46
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	112	120	125	120	120
Oxidation - Reduction, +/- mv	-64.5	-41.1	-53.1	-52.3	-54.1
Dissolved Oxygen, ppm	1.8	1.8	1.8	1.8	1.7
TURB.	7200	7200	7200	7200	7200

Sample Collection Requirements
(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL		✓	02 / G / 012 / 01
SVOA		4OC			/ / /
Pest/PCB		4OC			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4		✓	02 / G / 012 / 01
Nitrate		H_2SO_4			/ / /

Notes:

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Point of Interest: SA Ø2
Project Number: 02536.05 TKH
Date: 11-19/98
Sample Location ID: OLD-02-12C
Time: Start: 1015 End: 1500
Signature of Sampler: [illegible]

Water Level/Well Data

Well Depth 58.54 Ft. X Measured ___ Historical
X Top of Well ___ Top of Protective Casing
Well Riser Stick-up FM Ft. (from ground)
Protective ___ Ft. Casing/Well Difference
Protective ___ Ft. Casing

Depth to Water 12.94 Ft.
Well Material: X PVC ___ SS
Well Locked?: X Yes ___ No
Well Dia. X 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 46 Ft. X
X .16 Gal/Ft. (2 in.)
___ .65 Gal/Ft. (4 in.)
___ 1.5 Gal/Ft. (6 in.)
___ Gal/Ft. (__ in.)
= 7.36 Gal/Vol
21 Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure	X	
Concrete Collar Intact	X	
Other	X	

Equipment Documentation

Purging/Sampling Equipment Used:

Purging	Sampling	Equipment	Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
X	X	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used: (✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
X Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

Ambient Air VOC NR ppm Well Mouth NR ppm
Field Data Collected ___ In-line X In Container
Sample Observations: ___ Turbid ___ Colored X Clear ___ Odor ___ Cloudy

Purge Data	@ 10 Gal.	@ 15 Gal.	@ 20 Gal.	@ 20.5 Gal.	@ 21 Gal.
Temperature, Deg. C	26.6	26.4	26.3	26.0	25.9
pH, units	5.14	5.12	5.05	5.06	5.06
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	132	128	125	122	124
Oxidation - Reduction, +/- mv	-105.4	-108.2	-94.9	-83.4	-76.7
~~Dissolved Oxygen, ppm~~ NTU	72.6	23.6	14.93	10.61	6.86

Sample Collection Requirements
(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL			
SVOA		4OC			
Pest/PCB		4OC			
Inorganics		HNO_3			
Explosives		4°C			
TPH		H_2SO_4			
TOC		H_2SO_4			
Nitrate		H_2SO_4			

Notes:
02G01202 = 3x 40ml w/HCL = VOC
2x 40ml w/HCL = Diss. gases
2x 40ml w/H_2SO_4 = TOC
02G0~~1~~202 MS = 3x 40ml w/HCL = VOC
02G01202 MSD = 3x 40ml w/HCL = VOC

Project: BRAC NTC, Orlando, Group I, Site Screening	**Well ID:** OLD-02-13C	**Boring No.:** OLD-02-13C
Client: SOUTHNAVFACENGCOM		**Job No.:** CTO-107
Contractor: Custom	**Date started:** 08/15/97	**Compltd:** 08/15/97
Method: Hollow Stem Auger	**Casing Size:** NA	**Screen Int.:** 44-49 ft. bls	**Protection level:** D
Ground Elev.: NA	**Type of OVM.:** Porta FID	**Total depth:** 54Ft.	**Dpth to ▽** 9.5 Ft.
Logged by: PGM	**Well Development Date:**	**Site:** Study Area 02

Depth Ft.	Sample ID (Depth) (Type)	Split Spoon	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.
					Post-hole to 4 feet.			
5			100%	0	Light brown silty sand. Poorly sorted, with interbbedded layer of dark brown , organic-rich silty sand. Soft, loose. Wet below 9 feet. Cemented from 11 to 14 feet.		SP	13,11,13,10
			100%	0				7,8,9,11
			90%	0				10,12,12,18
10			90%	0				7,19,24,23
			90%	0				27,>50
			50%	5	Tan to brown clayey, sandy silt. Percentage of clay varies throughout. Stiff, friable, wet.		SP/ML	24,34,37,50
15			60%	2				15,36,>50
			70%	2				16,30,33,41
20			90%	2				17,16,19,14
			90%	2				10,12,27,16
25			90%	0	Tan, silty fine-grained sand. Grain size increases with depth. Soft, loose.		SP	8,11,11,15
			90%	2				9,18,19,22
			100%	2				5,6,6,4
30								

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Project: BRAC NTC, Orlando, Group I, Site Screening	Well ID: OLD-02-13C	Boring No.: OLD-02-13C
Client: SOUTHNAVFACENGCOM		Job No.: CTO-107
Contractor: Custom	Date started: 08/15/97	Compltd: 08/15/97
Method: Hollow Stem Auger	Casing Size: NA	Screen Int.: 44-49 ft. bls
Protection level: D	Ground Elev.: NA	Type of OVM.: Porta FID
Total depth: 54Ft.	Dpth to ▽ 9.5 Ft.	Logged by: PGM
Well Development Date:	Site: Study Area 02	

Continued from PAGE 1

Depth Ft.	Sample ID (Depth) (Type)	Split Spoon	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Soil class.	Blows/6-in.
			100%	0		SP	4,4,7,9
					Dark green clayey, silty sand. Percentage of clay decreases with depth. Interbedded with light brown fine- to coarse-grained sand.	SP/SW	
			100%	2			4,4,8,14
35			80%	0			10,14,20,21
			60%	0			11,14,17,20
			50%	4	Light brown fine-grained sand and silt. Loose, soft, wet.	SP	8,13,13,15
40			60%	0			16,22,23,25
			60%	0	Olive to dark green silty fine to coarse-grained sand. Some lithified material (limestone). Soft, loose.		9,14,11,17
45			50%	0			6,10,11,14
			50%	0			8,15,15,20
			50%	0			4,3,2,3
50			50%	0	Olive green silty clay. Soft, loose.	ML	3,3,3,3
			100%	0			2,4,3,4
55					TD		
60							

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GROUNDWATER SAMPLE FIELD DATA

Project: NTC-ORLANDO
Project Number: 2530.05
Sample Location ID: 02G01301
Time: Start: 1000 End: 1705

Point of Interest: SA 2 / OLD-02-13C
Date: 8/21/97
Signature of Sampler: G. Mitchell ROS B. BURNS

Water Level/Well Data

Well Depth 49.13 Ft. X Measured __ Historical

X Top of Well __ Top of Protective Casing

Well Riser Stick-up 0 Ft. (from ground)

Protective Casing/Well Difference NA Ft.

Protective Casing ___ Ft.

Depth to Water 8' Ft.

Well Material: X PVC __ SS

Well Locked?: X Yes __ No

Well Dia. X 2 inch __ 4 inch __ 6 inch

Water Level Equip. Used: __ Elect. Cond. Probe __ Float Activated __ Press. Transducer __ EST.

Height of Water Column ±40 Ft. X [X .16 Gal/Ft. (2 in.) / __ .65 Gal/Ft. (4 in.) / __ 1.5 Gal/Ft. (6 in.) / __ Gal/Ft. (__ in.)] = 6.8 Gal/Vol; ±20 Total Gal Purged

Well Integrity:

	Yes	No
Prot. Casing Secure	X	
Concrete Collar Intact	X	
Other	X	

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling		Equipment ID
X		Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)

- __ Methanol (100%)
- __ 25% Methanol/75% ASTM Type II water
- X Deionized Water
- X Liquinox Solution
- __ Hexane
- __ HNO_3/D.I. Water Solution
- X Potable Water
- __ None

Field Analysis Data

Ambient Air VOC NA ppm Well Mouth NA ppm

Field Data Collected __ In-line X In Container

Sample Observations: __ Turbid __ Clear __ Cloudy __ Colored __ Odor

Purge Data	@ 1 Gal.	@ 5 Gal.	@ 10 Gal.	@ 12 Gal.	@ 16 Gal.
Temperature, Deg. C	22.8	22.1	22.3	22.5	22.6
pH, units	5.64	5.30	5.20	5.07	5.16
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	84	80	77	78	76
Oxidation - Reduction, +/- mv	-16.0	-43.1	-36.2	-34.9	-41.8
Dissolved Oxygen, ppm	2.5	2.2	1.85	1.85	1.85
TURB	>200	>200	>200	>200	>200

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL		✓	02 / G / 013 / 01
SVOA		4OC			/ / /
Pest/PCB		4OC			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4		✓	02 / G / 013 / 01
Nitrate		H_2SO_4			/ / /

Notes:

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Project Number: 02530.05
Sample Location ID: OLD-02-13C
Time: Start: 0825 End: 1200

Point of Interest: SA 02
Date: 12-10/98
Signature of Sampler: WD

Water Level/Well Data

Well Depth 48.40 Ft. X Measured / ___ Historical
X Top of Well / ___ Top of Protective Casing
Well Riser Stick-up (from ground) FM Ft.
Protective Casing/Well Difference ___ Ft.
Protective Casing ___ Ft.

Depth to Water 8.91 Ft.
Well Material: X PVC / ___ SS
Well Locked?: X Yes / ___ No
Well Dia. X 2 inch / ___ 4 inch / ___ 6 inch
Water Level Equip. Used: X Elect. Cond. Probe / ___ Float Activated / ___ Press. Transducer

Height of Water Column 40.49 Ft. X [X .16 Gal/Ft. (2 in.) / ___ .65 Gal/Ft. (4 in.) / ___ 1.5 Gal/Ft. (6 in.) / ___ Gal/Ft. (__ in.)] = 6.5 Gal/Vol; 20.5 Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure	X	
Concrete Collar Intact	X	
Other ___		

Equipment Documentation

Purging/Sampling Equipment Used :

Purging	Sampling	(✓ If Used For)	Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
X	X	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used :

(✓ All That Apply at Location)
- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- X Deionized Water
- ___ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

Ambient Air VOC NR ppm Well Mouth NR ppm
Field Data Collected ___ In-line / X In Container
Sample Observations: ___ Turbid / X Clear / ___ Cloudy / ___ Colored / ___ Odor

Purge Data	@ 15 Gal.	@ 18 Gal.	@ 19 Gal.	@ 20 Gal.	@ 20.5 Gal.
Temperature, Deg. C	23.9	24.4	24.8	24.8	24.9
pH, units	5.13	5.15	5.05	5.03	4.99
Specific Conductivity	100	102	102	105	105
~~(umhos/cm @ 25 Deg. C)~~					
Oxidation - Reduction, +/- mv	-91.1	-93.1	-93.7	-98.4	-98.0
~~Dissolved Oxygen, ppm~~ NTU	11.90	8.30	6.70	7.53	6.38

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL			
SVOA		4OC			
Pest/PCB		4OC			
Inorganics		HNO_3			
Explosives		4°C			
TPH		H_2SO_4			
TOC		H_2SO_4			
Nitrate		H_2SO_4			

Notes:

02G01302
3x40ml w/HCL = VOC
2x40ml w/HCL = DISS. GASES
2x40ml w/H_2SO_4 = TOC

Project: BRAC NTC, Orlando, Group 1, Site Screening	**Well ID:** OLD-02-14C	**Boring No.:** OLD-02-14C
Client: SOUTHNAVFACENGCOM		**Job No.:** CTO-107
Contractor: Custom	**Date started:** 08/14/97	**Compltd:** 08/14/97
Method: Hollow Stem Auger	**Casing Size:** NA	**Screen Int.:** 41-48 ft. bls
Protection level: D	**Ground Elev.:** NA	**Type of OVM.:** Porta FID
Total depth: 50Ft.	**Dpth to ▽** 11 Ft.	**Logged by:** PGM
Well Development Date:	**Site:** Study Area 02	

Depth Ft.	Sample ID (Depth) (Type)	Split Spoon	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.
					Post-hole to 4 feet.			
5			50%	0	Dark brown silty sand. Organic rich. Soft, slightly stiff. Dry to 11 feet bls. Slightly cemented from 12'-14'.		OL/SP	3,3,5,7
			50%	0				8,9,8,7
			80%	6				6,7,5,7
10								
			80%	8				5,8,7,8
			80%	3				14,42,43,40
15			100%	4	Brown orange silty sand. Poorly sorted. Coarsens with depth. Iron staining in places. Wet, soft.		SP	11,9,10,15
			100%	0				15,23,25,32
			100%	0				15,18,20,33
20								
			60%	15				11,15,21,27
			60%	3				30,30,50,50
25			80%	0				15,25,29,35
			80%	5				3,6,9,12
			60%	0				3,6,9,11
30								

Project: BRAC NTC, Orlando, Group I, Site Screening	Well ID: OLD-02-14C	Boring No.: OLD-02-14C
Client: SOUTHNAVFACENGCOM		Job No.: CTO-107
Contractor: Custom	Date started: 08/14/97	Compltd: 08/14/97
Method: Hollow Stem Auger	Casing Size: NA	Screen Int.: 41-46 ft. bls
Protection level: D		
Ground Elev.: NA	Type of OVM.: Porta FID	Total depth: 50Ft.
Dpth to ▽ 11 Ft.		
Logged by: PGM	Well Development Date:	Site: Study Area 02

Continued from PAGE 1

Depth Ft.	Sample ID (Depth) (Type)	Split Spoon	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.
			60%	0			SP	3,6,6,8
			40%	0				3,6,12,16
35			40%	5				9,14,19,27
			80%	0				7,11,19,22
			60%	0				11,13,19,27
40			60%	5	Brown, olive to dark green silty clay with lenses of silt, sand and shell fragments. Clay, wet, low plasticity.		SP/CL	7,7,9,15
			60%	0				9,14,19,30
45			60%	0				3,7,9,11
			100%	0				3,4,5,4
			100%	0	Dark green silty clay. Soft, moderate plasticity. Highly cohesive. Dry.		CL	3,4,5,4
50					TD			
55								
60								

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GROUNDWATER SAMPLE FIELD DATA

Project: NTC-ORLANDO
Project Number: 02530.0C
Sample Location ID: 02GC14O1
Time: Start: 1300 End: 1630

Point of Interest: SA 2 / 012-07-14C
Date: 8/22/97
Signature of Sampler: G. [illegible] FOR B. BURNS

Water Level/Well Data

Well Depth 45.88 Ft. X Measured ___ Historical

X Top of Well ___ Top of Protective Casing

Well Riser Stick-up 0 Ft. (from ground)

Protective NA Ft. Casing/Well Difference

Protective ___ Ft. Casing

Depth to Water 9.20 Ft.

Well Material: X PVC ___ SS

Well Locked?: X Yes ___ No

Well Dia. X 2 inch ___ 4 inch ___ 6 inch

Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 36.6 Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__in.) = [6 Gal/Vol ; 18 Total Gal Purged]

Well Integrity:	Yes	No
Prot. Casing Secure	X	
Concrete Collar Intact		
Other		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling		Equipment ID
X		Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)

___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
X Deionized Water
X Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
X Potable Water
___ None

Field Analysis Data

Ambient Air VOC NA ppm Well Mouth NA ppm

Field Data Collected ___ In-line X In Container

Sample Observations: ___ Turbid ___ Colored ___ Clear ___ Odor ___ Cloudy

Purge Data	@ 1 Gal.	@ 4 Gal.	@ 7 Gal.	@ 14 Gal.	@ 18 Gal.
Temperature, Deg. C	26.2	24.5	24.8	27.0	24.6
pH, units	5.40	5.5	5.22	5.14	5.17
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	112	115	98	87	82
Oxidation - Reduction, +/- mv	-25.8	97.2	-23.1	-27.8	-21.9
Dissolved Oxygen, ppm	1.4	1.8	.70	.90	1.40
TURBIDITY	7200	7200	7200	163.3	162.4

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL		✓	02 / G / 014 / 01
SVOA		4C			
Pest/PCB		4C			
Inorganics		HNO_3,			
Explosives		4°C			
TPH		H_2SO_4			
TOC		H_2SO_4		✓	02 / G / 014 / 01
Nitrate		H_2SO_4			

Notes:

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Project Number: 02530.05
Sample Location ID: OLD-02-14
Time: Start: 0940 End: 1230
Point of Interest: SA 02
Date: 12-8/98
Signature of Sampler: CJP

Water Level/Well Data

Well Depth 46.25 Ft. X Measured ___ Historical
X Top of Well ___ Top of Protective Casing
Well Riser Stick-up FM Ft. (from ground)
Protective ___ Ft. Casing/Well Difference
Protective ___ Ft. Casing

Depth to Water 9.33 Ft.
Well Material: X PVC ___ SS
Well Locked?: X Yes ___ No
Well Dia. X 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 36.92 Ft. X [X .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.)] = 5.91 Gal/Vol; 22 Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure	X	
Concrete Collar Intact	X	
Other ___		

Equipment Documentation

Purging/Sampling Equipment Used:

Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
X	X	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

(✓ If Used For)

Decontamination Fluids Used:

(✓ All That Apply at Location)

- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- X Deionized Water
- ___ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

Ambient Air VOC NR ppm Well Mouth NR ppm
Field Data Collected ___ In-line X In Container
Sample Observations: ___ Turbid ___ Colored X Clear ___ Odor ___ Cloudy

Purge Data	@ 5 Gal.	@ 10 Gal.	@ 15 Gal.	@ 20 Gal.	@ 22 Gal.
Temperature, Deg. C	26.1	26.3	26.4	26.1	26.6
pH, units	5.04	5.20	5.27	5.02	5.09
Specific Conductivity (umhos/cm @ 25 Deg. C)	83	72	70	70	62
Oxidation - Reduction, +/- mv	91.6	-284.1	-148.1	-151.6	~~-144.8~~ -142.7
~~Dissolved Oxygen, ppm~~ NTU	43.1	36.7	13.49	7.38	6.65

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL			
SVOA		4OC			
Pest/PCB		4OC			
Inorganics		HNO_3			
Explosives		4°C			
TPH		H_2SO_4			
TOC		H_2SO_4			
Nitrate		H_2SO_4			

Notes:

02G01402
3x 40ml w/HCL = VOC
2x 40ml w/HCL = Diss. Gases
2x 40ml w/H_2SO_4 = TOC

Project: BRAC NTC, Orlando, Group I, Site Screening	Well ID: OLD-02-15A	Boring No.: OLD-02-15A
Client: SOUTHNAVFACENGCOM		Job No.: CTO-107
Contractor: Custom	Date started: 12/01/97	Compltd: 12/01/97
Method: Hollow Stem Auger / Casing Size: NA	Screen Int.: 10-15 ft. bls	Protection level: D
Ground Elev.: NA / Type of OVM.: Porta FID	Total depth: 15.5Ft.	Dpth to ⊻ 7 Ft.
Logged by: PGM / Well Development Date:		Site: Study Area 02

Depth Ft.	Sample ID (Depth) (Type)	Split Spoon	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.
					Post-hole to 4 feet.			
5			90%	0	Dark brown silty sand. Poorly sorted. Cemented in places from 1'-8'. Soft. Wet below 7'.		SP	4,4,4,11
			90%	0				26,30,30,26
			50%	0				2,5,9,21
10			70%	0				5,6,11,12
			30%	0				2,6,7,9
15				0	Light brown silty sand. Well sorted.		SW	5,7,8,10
					TD			
20								

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GROUNDWATER SAMPLE FIELD DATA

Project: NTC-ORLANDO
Project Number: 2530.05
Sample Location ID: 02G01501
Time: Start: 1000 End: 1130
Point of Interest: SA 2/OLD-02-15A
Date: 12/29/97
Signature of Sampler: D. ... FOR B. BURNS

Water Level/Well Data

Well Depth 14.52 Ft. X Measured ___ Historical

X Top of Well ___ Top of Protective Casing

Well Riser Stick-up 0 Ft. (from ground)

Protective Casing/Well Difference NA Ft.

Protective Casing ___ Ft.

Depth to Water 2.21 Ft.

Well Material: X PVC ___ SS

Well Locked?: X Yes ___ No

Well Dia. X 2 inch ___ 4 inch ___ 6 inch

Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 12.3 Ft. X [X .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.)] = 2 Gal/Vol; 9 Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure	X	
Concrete Collar Intact	X	
Other	X	

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling		Equipment ID
X		Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)

___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
X Deionized Water
X Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
X Potable Water
___ None

Field Analysis Data

Ambient Air VOC NA ppm Well Mouth NA ppm Field Data Collected ___ In-line X In Container

Sample Observations: ___ Turbid ___ Colored ___ Clear ___ Odor ___ Cloudy

Purge Data	@ 1 Gal.	@ 3 Gal.	@ 5 Gal.	@ 7 Gal.	@ 9 Gal.
Temperature, Deg. C	21.0	21.0	21.0	18.5	18.0
pH, units	5.3	5.1	5.16	5.15	5.3
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	93	100	103	95	108
Oxidation - Reduction, +/- mv	NA	NA	NA	NA	NA
Dissolved Oxygen, ppm	NA	NA	NA	NA	NA
TURBIDITY	17.35	10.1	8.1	6.2	4.57

Sample Collection Requirements
(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL		✓	02 / G / 015 / 01
SVOA		4C			/ / /
Pest/PCB		4C			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4		✓	02 / G / 015 / 01
Nitrate		H_2SO_4			/ / /

Notes:

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Project Number: 02530.05
Sample Location ID: OLD-02-15A
Time: Start: 1100 End: 1230

Point of Interest: SA 02
Date: 12-9/98
Signature of Sampler: CJP

Water Level/Well Data

Well Depth 14.76 ft. X Measured __ Historical
X Top of Well __ Top of Protective Casing
Well Riser Stick-up FM ft. (from ground)
Protective ___ ft. Casing/Well Difference
Protective ___ ft. Casing

Depth to Water 5.69 ft.
Well Material: X PVC __ SS
Well Locked?: X Yes __ No
Well Dia. X 2 inch __ 4 inch __ 6 inch
Water Level Equip. Used: X Elect. Cond. Probe __ Float Activated __ Press. Transducer

Height of Water Column 9.07 ft. X [X .16 Gal/ft. (2 in.) / __ .65 Gal/ft. (4 in.) / __ 1.5 Gal/ft. (6 in.) / __ Gal/ft. (__ in.)] = 1.45 Gal/Vol; 11 Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure	✓	
Concrete Collar Intact	✓	
Other ___		

Equipment Documentation

Purging/Sampling Equipment Used:

Purging (✓ if Used For)	Sampling	Equipment	Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
X	X	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used: (✓ All That Apply at Location)

__ Methanol (100%)
__ 25% Methanol/75% ASTM Type II water
X Deionized Water
__ Liquinox Solution
__ Hexane
__ HNO_3/D.I. Water Solution
__ Potable Water
__ None

Field Analysis Data

Ambient Air VOC NR ppm Well Mouth NR ppm
Field Data Collected __ In-line X In Container
Sample Observations: __ Turbid X Clear __ Cloudy __ Colored __ Odor

Purge Data	@ INIT Gal.	@ 4 Gal.	@ 6.5 Gal.	@ 9 Gal.	@ 11 Gal.
Temperature, Deg. C	28.0	28.3	28.5	28.4	28.5
pH, units	5.54	4.89	4.84	5.00	4.92
Specific Conductivity ~~(umhos/cm @ 25 Deg. C)~~	150	110	110	120	115
Oxidation - Reduction, +/- mv	-132.9	-119.6	-121.6	-123.4	-116.2
~~Dissolved Oxygen, ppm~~ NTU	50	25.8	6.62	1.67	1.60

Sample Collection Requirements (✓ if Required at this Location)

Analytical Parameter	✓ if Field Filtered	Preservation Method	Volume Required	✓ if Sample Collected	Sample Bottle IDs
VOA		HCL			/ / /
SVOA		4OC			/ / /
Pest/PCB		4OC			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4			/ / /
Nitrate		H_2SO_4			/ / /

Notes:

02G01502
3x40ml w/HCL = VOC
2x40ml w/HCL = Diss. gases
2x40ml w/H_2SO_4 = TOC

Project: BRAC NTC, Orlando, Group I, Site Screening	**Well ID:** OLD-02-16B	**Boring No.:** OLD-02-16B
Client: SOUTHNAVFACENGCOM		**Job No.:** CTO-107
Contractor: Custom	**Date started:** 12/03/97	**Compltd:** 12/03/97
Method: Hollow Stem Auger	**Casing Size:** NA	**Screen Int.:** 28-33 ft. bls
Protection level: D	**Ground Elev.:** NA	**Type of OVM.:** Porta FID
Total depth: 33.5Ft.	**Dpth to ▽** 7 Ft.	**Logged by:** PGM
Well Development Date:	**Site:** Study Area 02	

Depth Ft.	Sample ID (Depth) (Type)	Split Spoon	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.
					Post-hole to 4 feet.			
5			90%	0	Dark brown silty sand. Poorly sorted. Cemented in places from 1'-8'. Soft. Wet below 7'.		SP	4,4,4,11
			90%	0				26,30,30,26
			50%	0				2,5,9,21
10			70%	0				5,6,11,12
			30%	0				2,6,7,9
15			40%	0	Light brown silty sand. Well sorted.		SW	5,7,8,10
			60%	0	Tan silty fine-grained sand. Poorly sorted. No gradation. Moderately soft, loose.		SP	7,7,9,10
			40%	0				8,9,12,12
20			40%	0				3,5,12,14
			60%	0				5,8,11,10
25			30%	0				5,9,10,11
			50%	0				10,11,11,16
			70%	0				3,5,6,5
30			70%	0	Gray brown silty fine-grained sand. Some partially cemented, green silt in lower section.			5,10,16,12
				0				7,9,9,17
35					TD			

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GROUNDWATER SAMPLE FIELD DATA

Project: NTC-ORLANDO
Point of Interest: SA-2 / OLD-02-16B
Project Number: 2530.05
Date: 12/29/97
Sample Location ID: 02G01601
Time: Start: 1020 End: 1230
Signature of Sampler: [illegible] FOR B. BURNS

Water Level/Well Data

Well Depth 32.3 Ft. X Measured ___ Historical
X Top of Well ___ Top of Protective Casing
Well Riser Stick-up 0 Ft. (from ground)
Protective NA Ft. Casing/Well Difference
Protective Casing ___ Ft.

Depth to Water 2.14 Ft.
Well Material: X PVC ___ SS
Well Locked?: X Yes ___ No
Well Dia. X 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 30.2 Ft. X
X .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__in.) = 5 Gal/Vol ___ Total Gal Purged

Well Integrity:

	Yes	No
Prot. Casing Secure	X	
Concrete Collar Intact	X	
Other	X	

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling		Equipment ID
X		Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
X Deionized Water
X Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
X Potable Water
___ None

Field Analysis Data

Ambient Air VOC NA ppm Well Mouth NA ppm
Field Data Collected ___ In-line X In Container
Sample Observations: ___ Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 1 Gal.	@ 7.5 Gal.	@ 14 Gal.	@ 16 Gal.	@ 17.5 Gal.
Temperature, Deg. C	21.0	20.0	20.5	20.5	19.0
pH, units	5.94	5.68	5.77	5.77	5.74
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	252	228	232	232	232
Oxidation - Reduction, +/- mv	NA	NA	NA	NA	NA
Dissolved Oxygen, ppm	NA	NA	NA	NA	NA
TURBIDITY	18.70	14.95	8.24	8.26	7.24

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL		✓	02 / G / 016 / 01
SVOA		4OC			/ / /
Pest/PCB		4OC			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4		✓	02 / G / 016 / 01
Nitrate		H_2SO_4			/ / /

Notes:

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Point of Interest: SA 02
Project Number: 02530.05
Date: 12-9-98
Sample Location ID: OLD-02-16B
Time: Start: 0900 End: 1040
Signature of Sampler: [illegible]

Water Level/Well Data

Well Depth 32.75 ft. X Measured ___ Historical
X Top of Well ___ Top of Protective Casing
Well Riser Stick-up (from ground) FM ft.
Protective Casing/Well Difference ___ ft.
Protective Casing ___ ft.

Depth to Water 5.60 ft.
Well Material: X PVC ___ SS
Well Locked?: X Yes ___ No
Well Dia. X 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 27.15 ft. X [X .16 Gal/ft. (2 in.) ___ .65 Gal/ft. (4 in.) ___ 1.5 Gal/ft. (6 in.) ___ Gal/ft. (__ in.)] = 4.32 Gal/Vol; 13 Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure	X	
Concrete Collar Intact	X	
Other ___		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
X	X	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)
- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- X Deionized Water
- ___ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

Ambient Air VOC NR ppm Well Mouth NR ppm
Field Data Collected ___ In-line X In Container
Sample Observations: ___ Turbid X Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 5 Gal.	@ 10 Gal.	@ 11 Gal.	@ 12 Gal.	@ 13 Gal.
Temperature, Deg. C	26.1	26.5	26.4	26.4	26.1
pH, units	5.14	5.02	4.92	4.87	4.87
Specific Conductivity ~~(umhos/cm @ 25 Deg. C)~~	248	245	245	242	245
Oxidation - Reduction, +/- mv	-120.9	-110.7	-103.6	-96.9	-97.4
~~Dissolved Oxygen, ppm~~ NTU	4.57	3.69	3.13	2.73	2.11

Sample Collection Requirements (✓ if Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL			/ / /
SVOA		4OC			/ / /
Pest/PCB		4OC			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4			/ / /
Nitrate		H_2SO_4			/ / /

Notes:

02G01602
3x40ml w/HCL = VOC
2x40ml w/HCL = Diss. Gases
2x40ml w/H_2SO_4 = TOC

Project: BRAC NTC, Orlando, Group I, Site Screening	**Well ID:** OLD-02-17C	**Boring No.:** OLD-02-17C
Client: SOUTHNAVFACENGCOM		**Job No.:** CTO-107
Contractor: Custom	**Date started:** 12/02/97	**Compltd:** 12/02/97
Method: Hollow Stem Auger / **Casing Size:** NA	**Screen Int.:** 45-50 ft. bls	**Protection level:** D
Ground Elev.: NA / **Type of OVM.:** Porta FID	**Total depth:** 56Ft.	**Dpth to ▽** 7 Ft.
Logged by: PGM / **Well Development Date:**		**Site:** Study Area 02

Depth Ft.	Sample ID (Depth) (Type)	Split Spoon	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.
0–4					Post-hole to 4 feet.			
5			90%	0	Dark brown silty sand. Poorly sorted. Cemented in places from 1'-8'. Soft. Wet below 7'.		SP	4,4,4,11
			90%	0				26,30,30,26
			50%	0				2,5,9,21
10			70%	0				5,6,11,12
			30%	0				2,6,7,9
15			40%	0	Light brown silty sand. Well sorted.		SW	5,7,8,10
			60%	0	Tan silty fine-grained sand. Poorly sorted. No gradation. Moderately soft, loose.		SP	7,7,9,10
			40%	0				8,9,12,12
20			40%	0				3,5,12,14
			60%	0				5,8,11,10
25			30%	0				5,9,10,11
			50%	0				10,11,11,16
			70%	0				3,5,6,5
30			70%	0	Gray brown silty fine-grained sand. Some partially cemented, green silt in lower section.			5,10,16,12
			80%	0				7,9,9,17
35			80%	0				10,11,11,10

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Project: BRAC NTC, Orlando, Group I, Site Screening		Well ID: OLD-02-17C	Boring No.: OLD-02-17C
Client: SOUTHNAVFACENGCOM			Job No.: CTO-107
Contractor: Custom		Date started: 12/02/97	Compltd: 12/02/97
Method: Hollow Stem Auger	Casing Size: NA	Screen Int.: 45-50 ft. bls	Protection level: D
Ground Elev.: NA	Type of OVM: Porta FID	Total depth: 56Ft.	Dpth to ⊽ 7 Ft.
Logged by: PGM	Well Development Date:		Site: Study Area 02

Continued from PAGE 1

Depth Ft.	Sample ID (Depth) (Type)	Split Spoon	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.
			80%				SP	
			80%	0	Olive green silty to coarse-grained sand with alternating layers of clayey fine-grained sand. Wet throughout. Percentage of clay increases 47'-49'.		SP/ML	5,11,12,14
			50%	0				8,16,22,23
40			70%	0				8,14,22,27
			70%	0				14,19,23,20
45			60%	0				2,10,4,4
			80%	0				3,5,4,5
			90%	0				1,1,1,1
50			90%	0	Dark green silty clay. Clay moderately stiff, moderately plastic.		ML	4,5,8,11
			80%	0	Olive green clayey shell conglomerate.		CL/MH	4,4,8,8
55			40%	0				7,10,11,15
					TD			
60								
65								
70								

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GROUNDWATER SAMPLE FIELD DATA

Project: NTC-ORLANDO
Project Number: 2530.05
Sample Location ID: 0260170
Time: Start: 1130 End: 1430

Point of Interest: SA 2 / OLD - 02 - 17B
Date: 2/29/97
Signature of Sampler: G. Mull For B. Burns

Water Level/Well Data

Well Depth 49.04 Ft. X Measured ___ Historical
X Top of Well ___ Top of Protective Casing
Well Riser Stick-up 0 Ft. (from ground)
Protective Casing/Well Difference NA Ft.
Protective Casing ___ Ft.

Depth to Water 2.14 Ft.
Well Material: X PVC ___ SS
Well Locked?: X Yes ___ No
Well Dia. X 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 47 Ft. X [X .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.)] = 7.5 Gal/Vol; 25 Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure	X	
Concrete Collar Intact	X	
Other	X	

Equipment Documentation

Purging/Sampling Equipment Used:

Purging	Sampling		Equipment ID
X		Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used: (✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
X Deionized Water
X Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
X Potable Water
___ None

Field Analysis Data

Ambient Air VOC NA ppm Well Mouth NA ppm
Field Data Collected ___ In-line X In Container
Sample Observations: ___ Turbid ___ Colored ___ Clear ___ Odor ___ Cloudy

Purge Data	@ 1 Gal.	@ 15 Gal.	@ 18 Gal.	@ 21 Gal.	@ 25 Gal.
Temperature, Deg. C	18.0	21.0	21.5	21.5	20.5
pH, units	5.55	5.5	5.44	5.48	5.5
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	210	190	127	165	170
Oxidation - Reduction, +/- mv	NA	NA	NA	NA	NA
Dissolved Oxygen, ppm	NA	NA	NA	NA	NA
TURBIDITY	186.7	9.86	8.77	7.25	7.00

Sample Collection Requirements (✓ if Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL		✓	02 / G / 017 / 01
SVOA		4oC			/ / /
Pest/PCB		4oC			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4		✓	02 / G / 017 / 01
Nitrate		H_2SO_4			/ / /

Notes:

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Point of Interest: SA 02
Project Number: 02530.05
Date: 12-9/98
Sample Location ID: OLD-02-17C
Time: Start: 08.50 End: 1326
Signature of Sampler: CJP

Water Level/Well Data

Well Depth 49.81 ft. X Measured ___ Historical

X Top of Well ___ Top of Protective Casing

Well Riser Stick-up (from ground) FM ft.

Protective Casing/Well Difference ___ ft.

Protective Casing ___ ft.

Depth to Water 5.47 ft.

Well Material: X PVC ___ SS

Well Locked?: X Yes ___ No

Well Dia. X 2 inch ___ 4 inch ___ 6 inch

Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 44.34 ft. X [X .16 Gal/ft. (2 in.) ___ .65 Gal/ft. (4 in.) ___ 1.5 Gal/ft. (6 in.) ___ Gal/ft. (__ in.)] = 7.08 Gal/Vol; 27 Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure	X	
Concrete Collar Intact	X	
Other ___		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling	Equipment	Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
X	X	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)

___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
X Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

Ambient Air VOC NR ppm Well Mouth NR ppm

Field Data Collected ___ In-line X In Container

Sample Observations: ___ Turbid X Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 10 Gal.	@ 15 Gal.	@ 20 Gal.	@ 25 Gal.	@ 27 Gal.
Temperature, Deg. C	26.7	27.0	27.8	28.6	28.7
pH, units	5.81	5.70	5.39	5.50	5.47
Specific Conductivity ~~(umhos/cm @ 25 Deg C)~~	235	220	210	210	210
Oxidation - Reduction, +/- mv	-160.2	-156.3	-154.0	-147.2	-148.2
~~Dissolved Oxygen, ppm~~ NTU	9.01	3.43	3.40	1.30	1.28

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL			/ / /
SVOA		4OC			/ / /
Pest/PCB		4OC			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4			/ / /
Nitrate		H_2SO_4			/ / /

Notes:

026 01702/MS/MSD
9x 40ml w/HCL = VOC
2x40ml w/HCL = Diss. Gases
2x40ml w/HCL = TOC

Project: BRAC NTC, Orlando, Group I, Site Screening	**Well ID:** OLD-02-18B	**Boring No.:** OLD-02-18B
Client: SOUTHNAVFACENGCOM		**Job No.:** CTO-107
Contractor: Custom	**Date started:** 12/05/97	**Compltd:** 12/05/97
Method: Hollow Stem Auger	**Casing Size:** NA	**Screen Int.:** 29-34 ft. bls
Protection level: D.	**Ground Elev.:** NA	**Type of OVM.:** Porta FID
Total depth: 34.5Ft.	**Dpth to ∇** 7 Ft.	
Logged by: PGM	**Well Development Date:**	**Site:** Study Area 02

Depth Ft.	Sample ID (Depth) (Type)	Split Spoon	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.
0–4					Post-hole to 4 feet.			
5			90%	0	Tan to yellow silty sand; poorly sorted; slightly cemented. Soft, loose. Saturated below 7 feet.		SP	2,2,4,6
			90%	0				2,3,3,4
			50%	0				8,11,20,19
10			40%	0				11,10,11,21
			50%	2				10,12,18,24
					Gray-brown clayey, silty sand (percentage of clay increases with depth). Sand fine-grained throughout.		SW	
15			60%	0				7,9,11,13
			60%	0				6,14,13,16
			70%	0				5,5,4,7
20			50%	0	Yellow clayey, silty sand, percentage of silt/sand consistent. Wet, soft, loose. Above grades into yellow-brown silty sand.		SP	4,4,8,10
			60%	0				2,2,2,4
25			60%	1				6,4,4,5
			70%	0				2,4,5,4
			60%	0				1,1,2,2
30			90%	0	Dark green clayey, silty sand, percentage of clay increases with depth.			1,1,0,1
			90%	0				2,2,2,2
35					TD			
40								

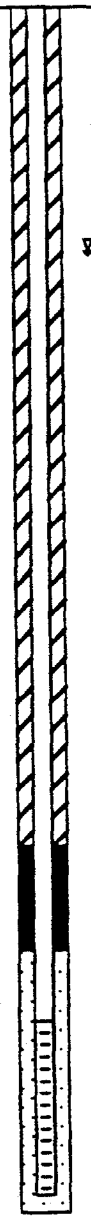


 ABB ENVIRONMENTAL SERVICES, INC.

GROUNDWATER SAMPLE FIELD DATA

Project: NTC - ORLANDO
Project Number: 2530.05
Sample Location ID: 02G01801
Time: Start: 0830 End: 1030
Point of Interest: SA 2 / OLD-02-18B
Date: 12/30/97
Signature of Sampler: B. [illegible] B. Burns

Water Level/Well Data

Well Depth 33.4 Ft. — X Measured / __ Historical — X Top of Well / __ Top of Protective Casing
Well Riser Stick-up (from ground) 0 Ft.
Protective Casing/Well Difference NA Ft.
Protective Casing ____ Ft.

Depth to Water 3.05 Ft.
Well Material: X PVC / __ SS
Well Locked?: X Yes / __ No
Well Dia.: X 2 inch / __ 4 inch / __ 6 inch
Water Level Equip. Used: X Elect. Cond. Probe / __ Float Activated / __ Press. Transducer

Height of Water Column 30 Ft. X [X .16 Gal/Ft. (2 in.) / __ .65 Gal/Ft. (4 in.) / __ 1.5 Gal/Ft. (6 in.) / __ Gal/Ft. (__ in.)] = 5 Gal/Vol; 16 Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure	X	
Concrete Collar Intact	X	
Other	X	

Equipment Documentation

Purging/Sampling Equipment Used:

Purging	Sampling	(✓ If Used For)	Equipment ID
X		Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used: (✓ All That Apply at Location)
- __ Methanol (100%)
- __ 25% Methanol/75% ASTM Type II water
- X Deionized Water
- X Liquinox Solution
- __ Hexane
- __ HNO_3/D.I. Water Solution
- X Potable Water
- __ None

Field Analysis Data

Ambient Air VOC NA ppm Well Mouth NA ppm
Field Data Collected: __ In-line / X In Container
Sample Observations: __ Turbid __ Clear __ Cloudy __ Colored __ Odor

Purge Data	@ 1 Gal.	@ 8 Gal.	@ 12 Gal.	@ 14 Gal.	@ 16 Gal.
Temperature, Deg. C	20.5	21.0	21.0	21.5	21.5
pH, units	5.05	4.51	4.55	4.57	4.57
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	122	109	109	109	102
Oxidation - Reduction, +/- mv	NA	NA	NA	NA	NA
Dissolved Oxygen, ppm	NA	NA	NA	NA	NA
TURBIDITY	18.17	4.89	7.60	6.64	5.02

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL		✓	02 / G / 018 / 01
SVOA		4°C			/ / /
Pest/PCB		4°C			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4		✓	02 / G / 018 / 01
Nitrate		H_2SO_4			/ / /

Notes:

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO Point of Interest: SA 02
Project Number: 02530.05 Date: 12-9/98
Sample Location ID: OLD-02-18B
Time: Start: 1420 End: 1625 Signature of Sampler: CJP

Water Level/Well Data

Well Depth 33.93 Ft. X Measured ___ Historical
X Top of Well ___ Top of Protective Casing ___ ______
Well Riser Stick-up FM Ft. (from ground)
Protective ______ Ft. Casing/Well Difference
Protective ______ Ft. Casing

Depth to Water 6.54 Ft.
Well Material: X PVC ___ SS ______
Well Locked?: X Yes ___ No
Well Dia. X 2 inch ___ 4 inch ___ 6 inch ___ ______
Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer ___ ______

Height of Water Column 27.39 Ft. X X .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ ___ Gal/Ft. (__ in.) = 4.5 Gal/Vol; 21.5 Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure	X	
Concrete Collar Intact	X	
Other ______		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
X	X	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)

- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- X Deionized Water
- ___ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None
- ___ ______

Field Analysis Data

Ambient Air VOC NR ppm Well Mouth NR ppm
Field Data Collected ___ In-line X In Container
Sample Observations: X Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 5 Gal.	@ 10 Gal.	@ 15 Gal.	@ 20 Gal.	@ 21.5 Gal.
Temperature, Deg. C	25.8	25.7	25.6	25.3	25.3
pH, units	5.18	5.06	4.96	4.97	4.95
Specific Conductivity ~~(umhos/cm @ 25 Deg. C)~~	125	122	120	121	120
Oxidation - Reduction, +/- mv	-130.5	-115.6	-116.0	-115.7	-113.5
~~Dissolved Oxygen, ppm~~ NTU	156.6	105.7	70.5	63.5	58.3

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL			/ / /
SVOA		4OC			/ / /
Pest/PCB		4OC			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4			/ / /
Nitrate		H_2SO_4			/ / /

Notes:

02601802
3x40 ml w/HCL = VOC
2x40ml w/HCL = Diss. Gases
2x40ml w/H_2SO_4 = TOC

Project: BRAC NTC, Orlando, Group I, Site Screening	**Well ID:** OLD-02-19C	**Boring No.:** OLD-02-19C
Client: SOUTHNAVFACENGCOM		**Job No.:** CTO-107

Contractor: Custom		**Date started:** 12/04/97	**Compltd:** 12/04/97
Method: Hollow Stem Auger	**Casing Size:** NA	**Screen Int.:** 49-54 ft. bls	**Protection level:** D
Ground Elev.: NA	**Type of OVM.:** Porta FID	**Total depth:** 58Ft.	**Dpth to ▽** 7 Ft.
Logged by: PGM	**Well Development Date:**		**Site:** Study Area 02

Depth Ft.	Sample ID (Depth) (Type)	Split Spoon	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.
					Post-hole to 4 feet.			
5			90%	0	Tan to yellow silty sand; poorly sorted; slightly cemented. Soft, loose. Saturated below 7 feet.		SP	2,2,4,6
			90%	0				2,3,3,4
			50%	0				8,11,20,19
10			40%	0				11,10,11,21
			50%	2				10,12,18,24
15			60%	0	Gray-brown clayey, silty sand (percentage of clay increases with depth). Sand fine-grained throughout.		SW	7,9,11,13
			60%	0				6,14,13,16
			70%	0				5,5,4,7
20			50%	0	Yellow clayey, silty sand, percentage of silt/sand consistent. Wet, soft, loose. Above grades into yellow-brown silty sand.		SP	4,4,8,10
			60%	0				2,2,2,4
25			60%	1				6,4,4,5
			70%	0				2,4,5,4
			60%	0				1,1,2,2
30			90%	0	Dark green clayey, silty sand, percentage of clay increases with depth.			1,1,0,1
			90%	0				2,2,2,2
35			100%	0				2,2,7,8

 ABB ENVIRONMENTAL SERVICES, INC.

Project: BRAC NTC, Orlando, Group I, Site Screening	Well ID: OLD-02-19C	Boring No.: OLD-02-19C
Client: SOUTHNAVFACENGCOM		Job No.: CTO-107
Contractor: Custom	Date started: 12/04/97	Compltd: 12/04/97
Method: Hollow Stem Auger / Casing Size: NA	Screen Int.: 49-54 ft. bls	Protection level: D
Ground Elev.: NA / Type of OVM.: Porta FID	Total depth: 58Ft.	Dpth to ▽ 7 Ft.
Logged by: PGM / Well Development Date:		Site: Study Area 02

Continued from PAGE 1

Depth Ft.	Sample ID (Depth) (Type)	Split Spoon	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.
			100%				SP	
			40%	0				4,6,15,16
			20%	0				9,18,10,15
40			60%	0				8,10,9,18
			40%	0				11,31,36,36
45			40%	0				9,21,24,33
			40%	0				10,8,11,13
			40%	0				7,9,6,8
50			50%	0				5,10,12,11
			70%	0				5,8,10,12
55			50%	0				2,0,0,1
			90%	0				2,3,4,4
					TD			
60								
65								
70								

GROUNDWATER SAMPLE FIELD DATA

Project: NTC-ORLANDO
Project Number: 02530.05
Sample Location ID: 02G01901
Time: Start: 0830 End: 1030
Point of Interest: SA 2/OLD-02-19C
Date: 12/30/97
Signature of Sampler: G. Mull FOR B. BULLS

Water Level/Well Data

Well Depth 51.94 Ft. X Measured ___ Historical
X Top of Well ___ Top of Protective Casing
Well Riser Stick-up 0 Ft. (from ground)
Protective NA Ft. Casing/Well Difference
Protective ___ Ft. Casing

Depth to Water 4.30 Ft.
Well Material: X PVC ___ SS
Well Locked?: X Yes ___ No
Well Dia. X 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 47 Ft. X
X .16 Gal/Ft. (2 in.)
___ .65 Gal/Ft. (4 in.)
___ 1.5 Gal/Ft. (6 in.)
___ Gal/Ft. (__ in.)
= 7.5 Gal/Vol; 24 Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure	X	
Concrete Collar Intact	X	
Other ___		

Equipment Documentation

Purging/Sampling Equipment Used:

Purging (✓ If Used For)	Sampling	Equipment	Equipment ID
X		Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used: (✓ All That Apply at Location)

___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
X Potable Water
___ None

Field Analysis Data

Ambient Air VOC NA ppm Well Mouth NA ppm
Field Data Collected ___ In-line X In Container
Sample Observations: ___ Turbid ___ Colored ___ Clear ___ Odor ___ Cloudy

Purge Data	@ 1 Gal.	@ 13 Gal.	@ 17 Gal.	@ 22 Gal.	@ 24 Gal.
Temperature, Deg. C	20.5	21.0	21.5	21.0	21.0
pH, units	6.64	5.32	5.3	5.16	5.13
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	85	60	58	58	58
Oxidation - Reduction, +/- mv	NA	NA	NA	NA	NA
Dissolved Oxygen, ppm	NA	NA	NA	NA	NA
TURBIDITY	>200	117.2	164.6	178.6	173.2

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCl		✓	02 / G / 019 / 01
SVOA		4OC			/ / /
Pest/PCB		4OC			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4		✓	02 / G / 019 / 01
Nitrate		H_2SO_4			/ / /

Notes:

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Project Number: 02530.05
Sample Location ID: ~~02530.05~~ OLD-02-19C
Time: Start: 1425 End: 1720
Point of Interest: SA Ø2
Date: 12-9/98
Signature of Sampler: CJP

Water Level/Well Data

Well Depth 52.65 Ft. X Measured ___ Historical
X Top of Well ___ Top of Protective Casing
Well Riser Stick-up FM Ft. (from ground)
Protective ___ Ft. Casing/Well Difference
Protective ___ Ft. Casing

Depth to Water 6.69 Ft.
Well Material: X PVC ___ SS
Well Locked?: X Yes ___ No
Well Dia. X 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 45.96 Ft. X [X .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.)] = 7.5 Gal/Vol; 30 Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure	X	
Concrete Collar Intact	X	
Other		

Equipment Documentation

Purging/Sampling Equipment Used:

Purging	Sampling	(✓ If Used For)	Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
X	X	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used: (✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
X Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

Ambient Air VOC NR ppm Well Mouth NR ppm
Field Data Collected ___ In-line X In Container
Sample Observations: X Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 15 Gal.	@ 20 Gal.	@ 25 Gal.	@ 28 Gal.	@ 30 Gal.
Temperature, Deg. C	25.7	25.1	25.0	24.8	24.9
pH, units	5.10	4.97	5.15	5.01	4.99
Specific Conductivity (umhos/cm @ 25 Deg. C)	60	60	60	60	60
Oxidation - Reduction, +/- mv	-96.5	-103.6	-95.7	-86.2	-83.3
~~Dissolved Oxygen, ppm~~ NTU	115.2	71.2	49.5	42.5	38.8

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL			/ / /
SVOA		4OC			/ / /
Pest/PCB		4OC			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4			/ / /
Nitrate		H_2SO_4			/ / /

Notes:

02G01902
3x40 ml w/HCL = VOC
2x40ml w/HCL = Diss. Gases
2x 40ml w/H_2SO_4 = TOC

SOIL BORING LOG

Client: SOUTH DIV	Project No. 02530. 05TKH	Point of Interest:: SA ~~36~~ 02
		Boring No.: OLD-02-21C/20E
		Protection: D
Contractor: GPI	Date Started: 10-26/98	Completed: 10-26/98
Method: HSA	Casing Size: 6 1/4 ID	PI Meter: Porta FID
Ground Elev.:	Soil Drilled: 42/62	Total Depth: 61'/41'
Logged by: WDO	Checked by:	▽ Below Ground: 7
Screen: 5 (ft.)	Riser: 36/56 (ft.) Diam: 2 (ID)	Material: PVC
		Page 1 of: 2

Columns: DEPTH (FT) · SAMPLE NUMBER · SAMPLE DEPTH · CLP/SCREENING · RECOVERY · PID (ppm) · SOIL/ROCK DESCRIPTION · SOIL CLASS · BLOWS/6-IN. · WELL DATA OLD-02-21C · LITHOLOGY OLD-02-20E · ELEVATION (FT.)

Sample Number: NA · Sample Depth: NA · CLP/Screening: NA

Recovery	PID (ppm)
NA	Ø
50	Ø
80	Ø
80	Ø
80	Ø
90	Ø
90	Ø
90	Ø
60	Ø
90	Ø
90	Ø
90	Ø
50	Ø
80	Ø
90	Ø
25	Ø
80	Ø
75	Ø
90	Ø
75	Ø
90	Ø
80	Ø
90	Ø
50	Ø

Soil/Rock Description	Soil Class
GRAY FINE SAND and TOPSOIL	SW
DARK GRAY SILTY FINE SAND	SM
Brown Fine Sand	SW
Dark Brown Fine Sand	SW
Dark GRAY/Black Sand with silt, well indurated to 18'	SM
Brown Fine sand with silty interbeds	SM
Brown silty sand with clay	SM
Light Tan Fine Sand with clay and silt	SM
Brown Fine Sand	SW
Light Tan Fine Sand with Clay and Silt	
green fine sand, with silt, trace clay. fine and med. well rounded qtz sand some opalescent grains silt decreases to 48', fine sand and silt 48'-60'	SM

Blows/6-in.:

P	H
P	H
P	H
P	H
2	3
2	4
2	3
2	3
3	4
6	11
4	6
6	8
6	8
8	12
2	2
10	15
8	8
10	14
9	16
18	21
7	17
15	30
14	22
26	3
5	9
14	15
3	8
11	10
8	14
16	10
1	7
8	12
7	9
10	8
3	3
3	5
3	5
5	4
3	5
4	5
3	3
4	6
5	7
6	6
W	C R
2	2
2	3
4	8
3	5
9	12

Depth (ft): 5, 10, 15, 20, 25, 30, 35, 40, 45

PROPORTIONS	(-) AMOUNT (+)	ABBREVIATIONS		
Trace (tr)	0-10%	f = fine	gr = gray	MS = Split Spoon
Little (li)	10-20%	m = medium	bn = brown	BW = Screened Auger
Some (so)	20-35%	c = coarse	blk = black	HP = Hydropunch
and	35-50%			

SOIL BORING LOG

Client: South Div	Project No. 02530.05TKH		Point of Interest: SA 02
			Boring No.: OLD-02-21C/20B
			Protection: D
Contractor: GPI	Date Started: 10-26/98		Completed: 10-26/98
Method: HSA	Casing Size: 6 1/4 ID		PI Meter: Porta FID
Ground Elev.:	Soil Drilled: 42/62		Total Depth: 41'/61'
Logged by: WDO	Checked by:		▽ Below Ground: 7
Screen: 5 (ft.)	Riser: 36/56 (ft.)	Diam: 2 (ID) / Material: PVC	Page 2 of: 2

DEPTH (FT)	SAMPLE NUMBER	SAMPLE DEPTH	CLP/SCREENING	RECOVERY	PID (ppm)	SOIL/ROCK DESCRIPTION	SOIL CLASS	BLOWS/6-IN.	WELL DATA	LITHOLOGY	ELEVATION (FT.)
	NA	NA	NA	60	Ø	See Above		10 7			
								13 18			
				10	Ø			6 11			
								16 20			
55				50	Ø			7 50			
								REF			
				50	Ø			5 7			
								7 9			
60				60	Ø			5 6			
								5 6			
				20	Ø			3 3			
						Green Silty Clay, Stiff	CL	4 3			
						TD 62'					

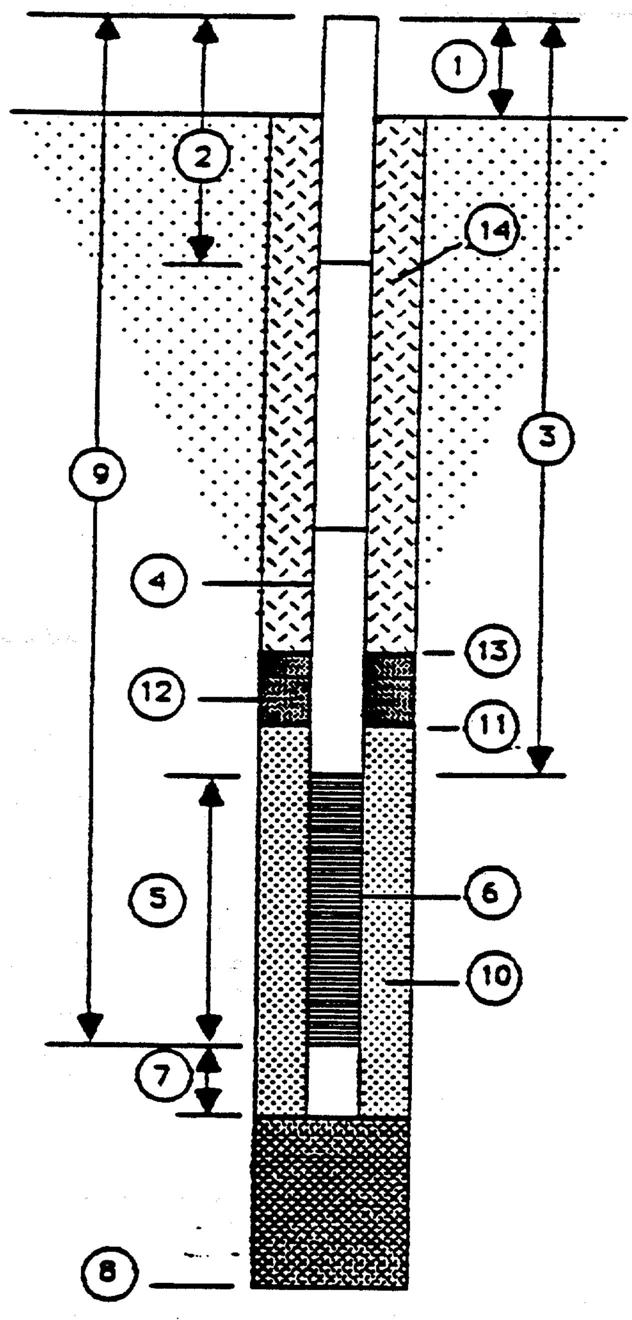
PROPORTIONS	(-) AMOUNT (+)	ABBREVIATIONS		
Trace (tr)	0-10%	f = fine	gr = gray	MS = Split Spoon
Little (li)	10-20%	m = medium	bn = brown	BW = Screened Auger
Some (so)	20-35%	c = coarse	blk = black	HP = Hydropunch
and	35-50%			

DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
2155 EAGLE DR., P. O. BOX 10068
CHARLESTON, S. C. 29411-0068

WELL CONSTRUCTION DETAILS

WELL NUMBER OLD-02-20B

DATE OF INSTALLATION 10-26/98



1. Height of Casing above ground FM
2. Depth to first Coupling 6'

   Coupling Interval Depths 16', 26', 36'

3. Total Length of Blank Pipe 36'
4. Type of Blank Pipe 2" sched 40 PVC
5. Length of Screen 5'
6. Type of Screen 2" sched 40 PVC 0.010 slot
7. Length of Sump 6"
8. Total Depth of Boring 41' Hole Diameter 10"
9. Depth To Bottom of Screen 41'
10. Type of Screen Filter Silica Sand

    Quantity Used 300 lb Size 20/30 U/C

11. Depth To Top of Filter 34'
12. Type of Seal 30/65 Sand / 3/8" bentonite chi

    Quantity Used 50 lb / 25 lb

13. Depth To Top of Seal 31'
14. Type of Grout Neat Cement

    Grout Mixture 100 lb portland / 10 lb bent / 10 gal

    Method of Placement Tremie

COMMENTS ON INSTALLATION:

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Project Number: 02530.05 TKH
Sample Location ID: OLD-02-20B
Time: Start: 1415 End: 1750

Point of Interest: SA 02
Date: ~~6-18-98~~ 11-18-98 MAR
Signature of Sampler: [illegible]

Water Level/Well Data

Well Depth 41.30 Ft. X Measured ___ Historical
X Top of Well ___ Top of Protective Casing
Well Riser Stick-up (from ground) FM Ft.
Protective Casing/Well Difference ___ Ft.
Protective Casing ___ Ft.

Depth to Water 7.34 Ft.
Well Material: X PVC ___ SS
Well Locked?: X Yes ___ No
Well Dia. X 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 33.96 Ft. X [X .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__in.)] = 5.43 Gal/Vol; 17.5 Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure	✓	
Concrete Collar Intact	✓	
Other ___	✓	

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
X	X	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
X Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

Ambient Air VOC NR ppm Well Mouth NR ppm
Field Data Collected ___ In-line X In Container
Sample Observations: ___ Turbid ___ Colored X Clear ___ Odor ___ Cloudy

Purge Data	@ 10 Gal.	@ 15 Gal.	@ 16 Gal.	@ 17 Gal.	@ 17.5 Gal.
Temperature, Deg. C	26.4	26.3	26.1	25.9	25.9
pH, units	4.15	4.06	4.07	4.11	4.14
Specific Conductivity	92	90	90	88	88
~~(umhos/cm @ 25 Deg. C)~~ NTU	4.09	3.48	1.72	1.50	1.10
Oxidation - Reduction, +/- mv	-151.7	-150.6	-146.8	-149.8	-147.4
Dissolved Oxygen, ppm					

Sample Collection Requirements
(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL	3x40 ml	✓	
~~SVOA~~ Diss. gas		~~4oC~~ HCL	2x40ml	✓	
Pest/PCB		4oC			
Inorganics		HNO_3			
Explosives		4°C			
~~TPH~~		H_2SO_4			
TOC		H_2SO_4	2x40ml	✓	
Nitrate		H_2SO_4			

Notes:

02G0200L

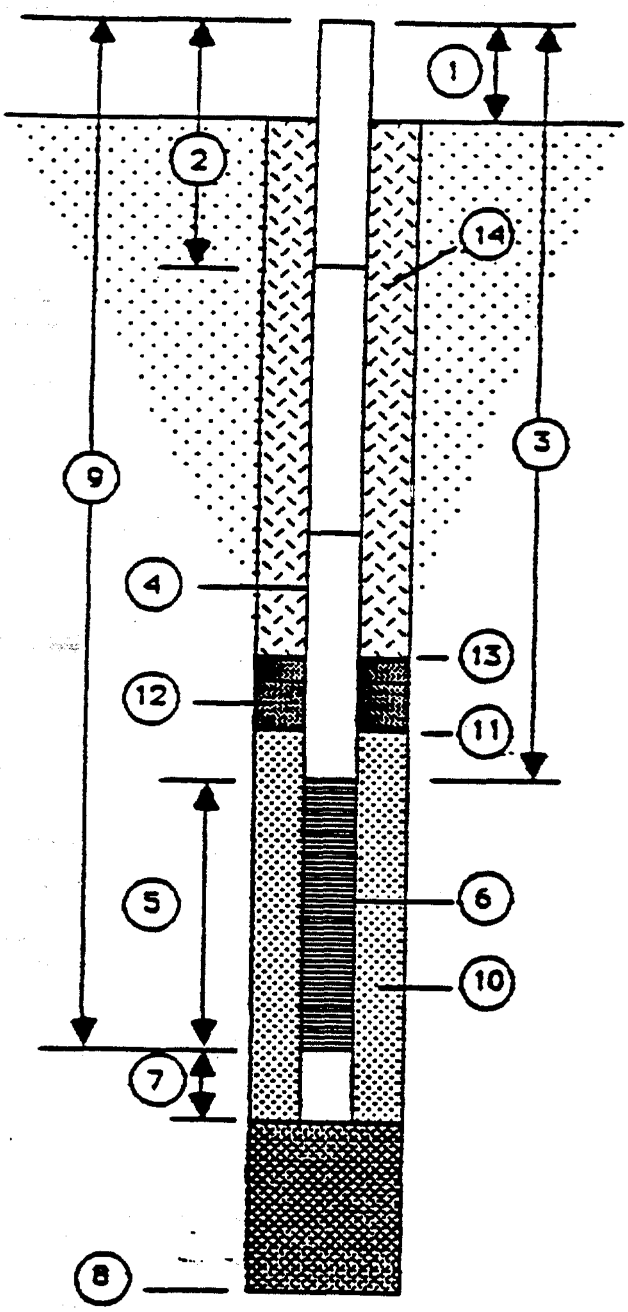
Nat. Att. Params measured.

DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
2155 EAGLE DR., P. O. BOX 10068
CHARLESTON, S. C. 29411-0068

WELL CONSTRUCTION DETAILS

WELL NUMBER OLD-02-21C

DATE OF INSTALLATION 10-26/98



1. Height of Casing above ground FM
2. Depth to first Coupling 6'

   Coupling Interval Depths 16', 26', 36', 46', 56'
3. Total Length of Blank Pipe 56'
4. Type of Blank Pipe 2" sched 40 PVC
5. Length of Screen 5'
6. Type of Screen 2" sched. 40 PVC 0.010 slot
7. Length of Sump 6"
8. Total Depth of Boring 61' Hole Diameter 10"
9. Depth To Bottom of Screen 61'
10. Type of Screen Filter Silica sand

    Quantity Used 250 lb Size 20/30 U/C
11. Depth To Top of Filter 54
12. Type of Seal 30/65 SAnd / Bentonite chips

    Quantity Used 50 lb / 25 lb
13. Depth To Top of Seal 51'
14. Type of Grout Neat cement

    Grout Mixture 100 lb Portland/10 lb bent/10 gal wat

    Method of Placement Tremie

COMMENTS ON INSTALLATION:

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Point of Interest: SA 02
Project Number: 02530.05
Date: 12-7/98
Sample Location ID: OLD-02-21C
Time: Start: 1005 End: 1430
Signature of Sampler: [illegible]

Water Level/Well Data

Well Depth 60.35 Ft. X Measured ___ Historical
X Top of Well ___ Top of Protective Casing
Well Riser Stick-up FM Ft. (from ground)
Protective Casing/Well Difference ___ Ft.
Protective Casing ___ Ft.

Depth to Water 6.81 Ft.
Well Material: X PVC ___ SS
Well Locked?: X Yes ___ No
Well Dia. X 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column 53.54 Ft. X [X .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.)] = 8.56 Gal/Vol; 28 Total Gal Purged

Well Integrity: Yes / No
Prot. Casing Secure: X
Concrete Collar Intact: X
Other ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling	Equipment	Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
X	X	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)
- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- X Deionized Water
- ___ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

Ambient Air VOC NA ppm Well Mouth NA ppm
Field Data Collected ___ In-line X In Container
Sample Observations: X Turbid ___ Colored ___ Clear ___ Odor ___ Cloudy

Purge Data	@ 11 Gal.	@ 20 Gal.	@ 25 Gal.	@ 27 Gal.	@ 28 Gal.
Temperature, Deg. C	26.7	26.7	26.6	26.1	26.5
pH, units	5.86	5.84	5.77	5.78	5.76
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	165	160	155	150	150
Oxidation - Reduction, +/- mv	-139.2	-135.3	-141.7	-138.0	-140.0
~~Dissolved Oxygen, ppm~~ NTU	96.5	109.7	89.9	79.8	76.8

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL			/ / /
SVOA		4OC			/ / /
Pest/PCB		4OC			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4			/ / /
Nitrate		H_2SO_4			/ / /

Notes:
02G02101 & 02G02101D
each
3 x 40 ml w/HCL = VOC
2 x 40 ml w/HCL = Diss. Gases
2 x 40 ml w/H_2SO_4 = TOC

APPENDIX B

SUMMARY OF DETECTIONS TABLES

TABLE B-1

SUMMARY OF POSITIVE DETECTIONS IN SURFACE SOIL

Appendix B

Table B-1. Summary of Detections in Surface Soil Analytical Results

Herndon Annex

Naval Training Center, Orlando

Orlando, FL

Sample ID	Background Screening 1		SCTL for Residential Soil [2]		RBC [3] for Residential Soil		RBC [3] for Industrial Soil		02S01201		02S01301		02S01401		02S01501		02S01601		02S01701	
Sampling Date									9-Jun-95		9-Jun-95		9-Jun-95		9-Jun-95		13-Jun-95		13-Jun-95	
Volatile Organics, ug/kg																				
Toluene			300,000		16,000,000	n	410,000,000	n									1	J		
Semivolatile Organics, ug/kg																				
Acenaphthylene			1,100,000		2,300,000	n	61,000,000	n			240	J								
Benzo(a)anthracene			1,400		880	c	7,800	c			410									
Benzo(a)pyrene			100		88	c	780	c			700									
Benzo(b)fluoranthene			1,400		880	c	7,800	c			680									
Benzo(g,h,i)perylene			2,300,000		2300000	n	61,000,000	n			1100									
Benzo(k)fluoranthene			15,000		8,800	c	78,000	c			610									
Chrysene			140,000		88,000	c	780,000	c			700									
Dibenz(a,h)anthracene			100		88	c	780	c			190	J								
Fluoranthene			2,800,000		3,100,000	n	82,000,000	n			940									
Indeno(1,2,3-cd)pyrene			1,500		880	c	7,800	c			670									
Phenanthrene			1,900,000		2,300,000	n	61,000,000	n			180	J								
Pyrene			2,200,000		2,300,000	n	61,000,000	n			970									
Pesticides/PCBs, ug/kg																				
4,4'-DDD			4,500		2,700	c	24,000	c												
4,4'-DDE			3,200		1,900	c	17,000	c	3.9				1.7	J	2.3	J				
4,4'-DDT			3,200		1,900	c	17,000	c	4.5				5.2		5.5					
alpha-Chlordane			3,000		490	c	4,400	c												
Aroclor-1254			600		1.6	n	41	n												
gamma-Chlordane			3,000		490	c	4,400	c												
Inorganics, mg/kg																				
Aluminum	2088		72,000		78,000	n	1,000,000	n	580	J	216	J	428	J	689	J	777	J	1350	J
Barium	8.7		105		5,500	n	140,000	n	12.2	B	2.2	B	6.4	B	6.9	B	4.7	B	5.9	B
Beryllium	ND		120		0.15	c	1	c					0.02	B			0.03	B	0.04	B
Calcium	25295		ND		1000000		1000000		973	J	58400	J	482	J	614	J	9270	J	7870	J
Chromium	5		290		390	n	10,000	n	1.6	B	1.9	B	0.9	B	1.8	B	1.8	B	1.9	B
Copper	4.1		105		270,000	n	1,000,000	n	5.9		1.8	B	4.7	B	9.3		3.1	B	2.1	B
Iron	712		23000		23,000	n	610,000	n	1760	J	173	J	264	J	1320	J	779	J	434	J
Lead	14.5		500		400		400		30.1	J	23.2	J	16.5	J	2.7	J	8.7	J	6.5	J
Magnesium	328		ND		460,468		460,468		123	B	353	B	19.5	B	37.5	B	93.2	B	95	B
Manganese	8.1		1600		1,800	n	47,000	n	12.9		6.9		2.6	B	8.3		6.5		5.5	
Mercury	0.07		3.7		23	n	610	n	0.65		0.03	B	0.03	B	0.04	B	0.05		0.66	
Silver	ND		390		390	n	10,000	n											0.58	B
Sodium	91.4		ND		1,000,000		1,000,000				13.1	B			3.6	B	5.9	B	4.9	B
Thallium	2		ND		ND		ND												0.49	B
Vanadium	3.1		15		550	n	14,000	n	0.55	B	2.6	B	0.55	B	1.3	B	1.9	B	1.9	B
Zinc	17.2		23,000		23,000	n	610,000	n	58.8		6.8		10.9		25.9		11.4		7.9	

Appendix B

Table B-1. Summary of Detections in Surface Soil Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	Background Screening 1		SCTL for Residential Soil [2]		RBC [3] for Residential Soil		RBC [3] for Industrial Soil		02S01801		02S01901		02S02001		02S02001		02S02101	
Sampling Date									13-Jun-95		13-Jun-95		13-Jun-95		13-Jun-95		13-Jun-95	
Volatile Organics, ug/kg																		
Toluene			300,000		16,000,000	n	410,000,000	n	2	J			1	J	1	J		
Semivolatile Organics, ug/kg																		
Acenaphthylene			1,100,000		2,300,000	n	61,000,000	n										
Benzo(a)anthracene			1,400		880	c	7,800	c										
Benzo(a)pyrene			100		88	c	780	c										
Benzo(b)fluoranthene			1,400		880	c	7,800	c										
Benzo(g,h,i)perylene			2,300,000		2300000	n	61,000,000	n										
Benzo(k)fluoranthene			15,000		8,800	c	78,000	c										
Chrysene			140,000		88,000	c	780,000	c										
Dibenz(a,h)anthracene			100		88	c	780	c										
Fluoranthene			2,800,000		3,100,000	n	82,000,000	n										
Indeno(1,2,3-cd)pyrene			1,500		880	c	7,800	c										
Phenanthrene			1,900,000		2,300,000	n	61,000,000	n										
Pyrene			2,200,000		2,300,000	n	61,000,000	n										
Pesticides/PCBs, ug/kg																		
4,4'-DDD			4,500		2,700	c	24,000	c									130	D
4,4'-DDE			3,200		1,900	c	17,000	c	4	J							14	
4,4'-DDT			3,200		1,900	c	17,000	c	13								8.7	
alpha-Chlordane			3,000		490	c	4,400	c	3.4	J							2.7	
Aroclor-1254			600		1.6	n	41	n	70									
gamma-Chlordane			3,000		490	c	4,400	c	3.9	P							2.8	J
Inorganics, mg/kg																		
Aluminum	2088		72,000		78,000	n	1,000,000	n	732	J	655	J	414	J	380	J	371	J
Barium	8.7		105		5,500	n	140,000	n	5.5	B	1.9	B	0.8	B	0.68	B	0.26	B
Beryllium	ND		120		0.15	c	1	c										
Calcium	25295		ND		1000000		1000000		2150	J	472	J	356	J	686	J	40.4	J
Chromium	5		290		390	n	10,000	n	1.8	B					0.69	B		
Copper	4.1		105		270,000	n	1,000,000	n	3.8	B	0.48	B	0.45	B				
Iron	712		23000		23,000	n	610,000	n	431	J	425	J	85	J	79.7	J	38.7	J
Lead	14.5		500		400		400		25	J	1.7	J	1.3	J	1.3	J	1.8	J
Magnesium	328		ND		460,468		460,468		169	B	23.8	B	9	B	13.5	B		
Manganese	8.1		1600		1,800	n	47,000	n	8.1		2.6	B	0.79	B	0.54	B	0.27	B
Mercury	0.07		3.7		23	n	610	n	0.11									
Silver	ND		390		390	n	10,000	n	1.8	B								
Sodium	91.4		ND		1,000,000		1,000,000											
Thallium	2		ND		ND		ND								0.75	B	1.1	B
Vanadium	3.1		15		550	n	14,000	n			1.2	B						
Zinc	17.2		23,000		23,000	n	610,000	n	24.1		3.2	B	1.6	B	0.87	B		

Appendix B
Table B-1. Notes for Summary of Detections in Surface Soil Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

NOTES:

[1] The background screening value is twice the average of detected concentrations for inorganic analytes.

[2] SCTL = Soil Cleanup Target Levels for Chapter 62-785, Florida Administrative Code, final report by L.T.-Navarro, N.C. Halmes, and S.M. Roberts, Center for Environmental & Human Toxicology, University of Florida, Gainesville, April 30, 1998).
Chromium values are for Chromium VI.

[3] RBC = Risk-Based Concentration Table, USEPA Region III, May 1996, R.L. Smith. RBC for chromium is based on chromium VI. RBC for lead is not available, value is Interim Guidance on Establishing Soil Lead Cleanup Levels at Superfund Sites (OSWER directive 9355-4-12). For essential nutrients (calcium, magnesium, sodium) screening values were derived based on recommended daily allowances (RDAs).
RBC for benzo(g,h,i)perylene and phenanthrene are not available, value is based on pyrene.

n = noncarcinogenic pathway
c = carcinogenic pathway
ND = Not determined.
bls = below land surface
PCB = polychlorinated biphenyl.
OSWER = Office of Solid Waste and Emergency Response.
USEPA = U.S. Environmental Protection Agency.
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethene
DDT = Dichlorodiphenyltrichloroethane
D = Indicates value was determined during a diluted reanalysis.
J = Reported concentration is an estimated quantity.
All inorganics results expressed in milligrams per kilogram (mg/kg) soil dry weight; organics in micrograms per kilogram (ug/kg) soil dry weight.
Bold/shaded values indicate exceedance of regulatory guidance and background.

mg/kg = milligrams per kilogram.
ug/kg = micrograms per kilogram.

TABLE B-2

SUMMARY OF POSITIVE DETECTIONS IN SUBSURFACE SOIL

Appendix B

Table B-2. Summary of Detections in Subsurface Soil Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	Background Screening[1]		SCTL[2] Leaching		RBC[3] for Residential Soil		RBC[3] for Industrial Soil		02B00201		02B00301		02B00601		02B00701		02B00901		02B01101	
Sampling Date									6-Sep-94		6-Sep-94		7-Sep-94		8-Feb-95		22-Feb-95		22-Feb-95	
Volatile Organics, ug/kg																				
Acetone			NA		7,800,000	n	200,000,000	n	66		82						160		82	D
Toluene			NA		16,000,000	n	410,000,000	n							10	J				
Semivolatile Organics, ug/kg																				
bis(2-Ethylhexyl)phthalate			NA		46000	c	410000	c	NA		NA				140	J			220	J
Di-n-butylphthalate			NA		ND		ND		NA		NA		600							
Inorganics, mg/kg																				
Aluminum	11,130		NC		78,000	n	1,000,000	n	NA		NA		540		669		227		1020	
Arsenic	2.0		NA		0.43 / 23	c/n	3.8 / 610	c/n	NA		NA						0.66	B	0.7	B
Barium	11.3		NA		5,500	n	140,000	n	NA		NA		2.7	J	0.57	B	0.34	B	1.7	B
Beryllium	0.18		NA		0.15	c	1.3	c	NA		NA						0.13	B		
Calcium	321		NC		1,000,000		1,000,000		NA		NA		137	B	364	B	274	B	700	B
Chromium	11.3		NA		390	n	10,000	n	NA		NA						1.4	B	2.9	
Copper	2.8		NC		3,100	n	82,000	n	NA		NA		1.1	B					12.9	
Iron	829		NC		23,000	n	610,000	n	NA		NA		309		102		30.7		66.7	
Lead	7.0		NC		400		400		NA		NA		2.2	J					2.5	
Magnesium	38.9		NC		460,468		460,468		NA		NA		10.6	B	12.6	B	11.1	B	19.9	B
Manganese	0.69		NC		1,800	n	47,000	n	NA		NA		2.6	B	0.61	B	1.1	B	0.65	B
Mercury	0.12		NA		23	n	610	n	NA		NA		0.02	B	0.03	B			0.12	
Vanadium	5.9		NA		550	n	14,000	n	NA		NA								2.1	B
Zinc	0.66		NA		23,000	n	610,000	n	NA		NA		15.4				0.8	B	4.2	B

Appendix B

Table B-2: Summary of Detections in Subsurface Soil Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	Background Screening[1]	SCTL[2] Leaching	RBC[3] for Residential Soil		RBC[3] for Industrial Soil		02B01201	02B01301
Sampling Date							13-Aug-97	15-Aug-97
Volatile Organics, ug/kg								
Acetone		NA	7,800,000	n	200,000,000	n	81	63
Toluene		NA	16,000,000	n	410,000,000	n		
Semivolatile Organics, ug/kg								
bis(2-Ethylhexyl)phthalate		NA	46000	c	410000	c	NA	NA
Di-n-butylphthalate		NA	ND		ND		NA	NA
Inorganics, mg/kg								
Aluminum	11,130	NC	78,000	n	1,000,000	n	NA	NA
Arsenic	2.0	NA	0.43 / 23	c/n	3.8 / 610	c/n	NA	NA
Barium	11.3	NA	5,500	n	140,000	n	NA	NA
Beryllium	0.18	NA	0.15	c	1.3	c	NA	NA
Calcium	321	NC	1,000,000		1,000,000		NA	NA
Chromium	11.3	NA	390	n	10,000	n	NA	NA
Copper	2.8	NC	3,100	n	82,000	n	NA	NA
Iron	829	NC	23,000	n	610,000	n	NA	NA
Lead	7.0	NC	400		400		NA	NA
Magnesium	38.9	NC	460,468		460,468		NA	NA
Manganese	0.69	NC	1,800	n	47,000	n	NA	NA
Mercury	0.12	NA	23	n	610	n	NA	NA
Vanadium	5.9	NA	550	n	14,000	n	NA	NA
Zinc	0.66	NA	23,000	n	610,000	n	NA	NA

Appendix B
Table B-2. Summary of Detections in Subsurface Soil Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

NOTES:

[1] The background screening value is twice the average of detected concentrations for inorganic analytes.

[2] SCTL = Florida Department of Environmental Protection, Soil Cleanup Target Levels, Chapter 62-785 FAC, April 30, 1998.

Values indicated are for direct exposure residential scenario (SCTL Residential) and leachability based on groundwater criteria.

For detected analytes and compounds in subsurface soils, SCTLs are not applicable (NAs) because there are no associated exceedances of Florida GCTLs in site groundwater.

Leaching SCTLs are not calculated (NC) by FDEP.

[3] RBC = Risk-Based Concentration Table, USEPA Region III, March 1997, R.L. Smith. RBC for chromium is based on chromium VI. RBC for lead is not available, value is Interim Guidance on Establishing Soil Lead Cleanup Levels at Superfund Sites (OSWER directive 9355-4-12). For essential nutrients (calcium, potassium, sodium, magnesium) screening values were derived based on recommended daily allowances (RDAs).

n = noncarcinogenic pathway
c = carcinogenic pathway
NA = Not applicable (for SCTLs) or not analyzed.
ND = Not determined.
NC = Not calculated.
mg/kg = milligrams per kilogram.
ug/kg = micrograms per kilogram.
OSWER = Office of Solid Waste and Emergency Response.
USEPA = U.S. Environmental Protection Agency.
J = Reported concentration is an estimated quantity.
All inorganics results expressed in milligrams per kilogram (mg/kg) soil dry weight; organics in micrograms per kilogram (ug/kg) soil dry weight.

TABLE B-3

SUMMARY OF POSITIVE DETECTIONS IN GROUNDWATER (PERMANENT MONITORING WELLS ONLY)

Appendix B
Table B-3. Summary of Detections in Groundwater Analytical Results
(Permanent Monitoring Wells Only)
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	Background Screening[1]	FDEPGCTL	Primary FEDMCL	RBC[2] for Tap Water	02G00101	02G00103	02G00102	02G00202	02G00203	02G00301	02G00403	02G00501
Sampling Date					14-Sep-94	8-Dec-98	14-Jun-95	14-Jun-95	8-Dec-98	14-Sep-94	7-Dec-98	14-Sep-94
Volatile Organics, ug/L												
1,2,4-Trimethylbenzene		10 o	ND	12 n								
1,3,5-Trimethylbenzene		10 o	ND	12 n								
2-Butanone		4200 st	ND	1900 n								1 J
4-Isopropyltoluene		ND	ND	ND								
Benzene		1 p	5	0.36 c								
Bromodichloromethane		1 c	ND	0.17 c								
Chloroform		5.7 c	ND	0.15 c	0.3 J							
Chloromethane		2.7 c	ND	1.4 c						2		
cis-1,2-Dichloroethene		63 p	70	61 n								
Ethylbenzene		30 st	700	1300 n								
Isopropylbenzene		0.8 st										
Methylene chloride		5 c				1.3 J			1.4 J		0.73 J	
o-Dichlorobenzene												
Trichloroethene		3 p	5	1.6 c								
Xylene (total)		20 st	10000	12000 n								
Light gases, ug/L												
Methane		ND				2.2			21		5.6	
Ethane		ND										
General Chemistry, mg/L												
Total Organic Carbon						4			9		5	
Semivolatile Organics, ug/L												
bis(2-Ethylhexyl)phthalate		6 p	6	4.8 c			4	4				
Phenanthrene		210 st	ND	ND								
Phenol		10 o	ND	22000 n								

Appendix B
Table B-3. Summary of Detections in Groundwater Analytical Results
(Permanent Monitoring Wells Only)
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	Background Screening [1]	FDEPGCTL	Primary FEDMCL	RBC[2] for Tap Water	02G00101	02G00103	02G00102	02G00202	02G00203	02G00301	02G00403	02G00501
Sampling Date					14-Sep-94	8-Dec-98	14-Jun-95	14-Jun-95	8-Dec-98	14-Sep-94	7-Dec-98	14-Sep-94
Inorganics, ug/L												
Aluminum	4,067	200 s	ND	37,000 n			1590	78.2 B				
Antimony	4.1	6 p	6	15 n				2.6 B				
Arsenic	5	50 p	50	0.045/11 c/n								
Barium	31.4	2,000 p	2,000	2,600 n			18.3 B					
Beryllium	ND	4	4	0.016 c								
Calcium	36,830	ND	ND	1,000,000			21000	37300				
Chromium	7.8	100	100	ND			3.2 B					
Copper	5.4	1,000 s	1,300	1,500 n			9.1 B					
Iron	1,227	300 s	ND	11,000 n			267	13.8 B				
Lead	4	15 p	15	15								
Magnesium	4,560	ND	ND	118,807			358 B	856 B				
Manganese	17	50 s	ND	840 n			18.5					
Mercury	0.12	2	2	11 n								
Potassium	5,400	ND	ND	297,016			2390 B	904 B				
Selenium	9.7	50 s	ND	180								
Sodium	18,222	160,000 p	ND	396,022			1660 B	4040 B				
Vanadium	20.6	49 st	ND	260 n				2.5 B				
Zinc	4	5000 s	ND	11,000 n								
Radiological, pCi/L												
Gross Alpha	13	15	15	ND			4.4	1.1				
Gross Beta	9.5	ND	ND	ND			5.3					

Appendix B
Table B-3. Summary of Detections in Groundwater Analytical Results
(Permanent Monitoring Wells Only)
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	Background Screening[1]	FDEPGCTL	Primary FEDMCL	RBC[2] for Tap Water	02G00502	02G00503	02G00601	02G00603	02G00701	02G00703	02G00801	02G00802
Sampling Date					14-Jun-95	7-Dec-98	14-Sep-94	19-Nov-98	10-Mar-95	11-Dec-98	1-Mar-95	11-Aug-97
Volatile Organics, ug/L												
1,2,4-Trimethylbenzene		10 o	ND	12 n								1.9
1,3,5-Trimethylbenzene		10 o	ND	12 n								0.8
2-Butanone		4200 st	ND	1900 n								
4-Isopropyltoluene		ND	ND	ND								
Benzene		1 p	5	0.36 c							21 D	35
Bromodichloromethane		1 c	ND	0.17 c	0.3 J							
Chloroform		5.7 c	ND	0.15 c	5							
Chloromethane		2.7 c	ND	1.4 c								
cis-1,2-Dichloroethene		63 p	70	61 n							1	0.83
Ethylbenzene		30 st	700	1300 n							0.6 J	
Isopropylbenzene		0.8 st										
Methylene chloride		5 c				0.65 J		3.7 J		1.5 J		
o-Dichlorobenzene												
Trichloroethene		3 p	5	1.6 c								
Xylene (total)		20 st	10000	12000 n					0.2 J			
Light gases, ug/L												
Methane		ND				7.9		19		20		
Ethane		ND										
General Chemistry, mg/L												
Total Organic Carbon						18		5		2		
Semivolatile Organics, ug/L												
bis(2-Ethylhexyl)phthalate		6 p	6	4.8 c								NA
Phenanthrene		210 st	ND	ND								NA
Phenol		10 o	ND	22000 n							2 J	NA

Appendix B
Table B-3. Summary of Detections in Groundwater Analytical Results
(Permanent Monitoring Wells Only)
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	Background[1] Screening		FDEPGCTL		Primary FEDMCL		RBC[2] for Tap Water		02G00502		02G00503		02G00601		02G00603		02G00701		02G00703		02G00801		02G00802	
Sampling Date									14-Jun-95		7-Dec-98		14-Sep-94		19-Nov-98		10-Mar-95		11-Dec-98		1-Mar-95		11-Aug-97	
Inorganics, ug/L																								
Aluminum	4,067		200	s	ND		37,000	n	1070				5500				466				2930		NA	
Antimony	4.1		6	p	6		15	n	7.3	B													NA	
Arsenic	5		50	p	50		0.045/11	c/n	2.5	B							9.4	B					NA	
Barium	31.4		2,000	p	2,000		2,600	n	9.7	B			8.2	B			36.6	B			49.7	B	NA	
Beryllium	ND		4		4		0.016	c					0.21	J									NA	
Calcium	36,830		ND		ND		1,000,000		33100				35700				14700				4920	B	NA	
Chromium	7.8		100		100		ND						11.9								4.4	B	NA	
Copper	5.4		1,000	s	1,300		1,500	n					6.3	B									NA	
Iron	1,227		300	s	ND		11,000	n	90.8	B			159				1450				2150		NA	
Lead	4		15	p	15		15						3.7										NA	
Magnesium	4,560		ND		ND		118,807		1620	B			545	B			3430	B			5220		NA	
Manganese	17		50	s	ND		840	n	9.4	B			1.5	B			140				18.2		NA	
Mercury	0.12		2		2		11	n					0.18	B									NA	
Potassium	5,400		ND		ND		297,016		1480	B			2620	B			884	B			1300	B	NA	
Selenium	9.7		50	s	ND		180						2.4	J									NA	
Sodium	18,222		160,000	p	ND		396,022		5940				2750	B			8610				5460		NA	
Vanadium	20.6		49	st	ND		260	n	11.7	B			23.6	B									NA	
Zinc	4		5000	s	ND		11,000	n	49.4								8.4	B			5.1	B	NA	
Radiological, pCi/L																								
Gross Alpha	13		15		15		ND		4.6								4				8		NA	
Gross Beta	9.5		ND		ND		ND		6								4.3				6.4		NA	

Appendix B
Table B-3. Summary of Detections in Groundwater Analytical Results
(Permanent Monitoring Wells Only)
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	Background[1] Screening		FDEPGCTL		Primary FEDMCL		RBC[2] for Tap Water		02G00803		02G00901		02G00903		02G01001		02G01002		02G01003		02G01101		02G01103	
Sampling Date									20-Nov-98		1-Mar-95		20-Nov-98		1-Mar-95		12-Aug-97		20-Nov-98		1-Mar-95		20-Nov-98	
Volatile Organics, ug/L																								
1,2,4-Trimethylbenzene			10	o	ND		12	n	1.8	J														
1,3,5-Trimethylbenzene			10	o	ND		12	n									0.73							
2-Butanone			4200	st	ND		1900	n																
4-Isopropyltoluene			ND		ND		ND																	
Benzene			1	p	5		0.36	c	23						32	D	7.8							
Bromodichloromethane			1	c	ND		0.17	c																
Chloroform			5.7	c	ND		0.15	c																
Chloromethane			2.7	c	ND		1.4	c																
cis-1,2-Dichloroethene			63	p	70		61	n	0.65	J					1								0.49	J
Ethylbenzene			30	st	700		1300	n																
Isopropylbenzene			0.8	st																				
Methylene chloride			5	c															0.5	J				
o-Dichlorobenzene																								
Trichloroethene			3	p	5		1.6	c																
Xylene (total)			20	st	10000		12000	n																
Light gases, ug/L																								
Methane			ND						270	D			3.8						1.2				180	D
Ethane			ND						0.61															
General Chemistry, mg/L																								
Total Organic Carbon									5				16						7				3	
Semivolatile Organics, ug/L																								
bis(2-Ethylhexyl)phthalate			6	p	6		4.8	c									NA							
Phenanthrene			210	st	ND		ND										NA				2	J		
Phenol			10	o	ND		22000	n							7	J	NA							

Appendix B
Table B-3. Summary of Detections in Groundwater Analytical Results
(Permanent Monitoring Wells Only)
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	Background Screening[1]	FDEPGCTL	Primary FEDMCL	RBC[2] for Tap Water	02G00803	02G00901	02G00903	02G01001	02G01002	02G01003	02G01101	02G01103
Sampling Date					20-Nov-98	1-Mar-95	20-Nov-98	1-Mar-95	12-Aug-97	20-Nov-98	1-Mar-95	20-Nov-98
Inorganics, ug/L												
Aluminum	4,067	200 s	ND	37,000 n		1080		1460	NA		294	
Antimony	4.1	6 p	6	15 n		3.7 J		3.4 B	NA			
Arsenic	5	50 p	50	0.045/11 c/n					NA		7.4 B	
Barium	31.4	2,000 p	2,000	2,600 n		10 B		43.3 B	NA			
Beryllium	ND	4	4	0.016 c				0.37 B	NA			
Calcium	36,830	ND	ND	1,000,000		38100		15000	NA		16300	
Chromium	7.8	100	100	ND				2.5 B	NA			
Copper	5.4	1,000 s	1,300	1,500 n		21.6 B			NA			
Iron	1,227	300 s	ND	11,000 n		60.4 B		2030	NA		332	
Lead	4	15 p	15	15					NA			
Magnesium	4,560	ND	ND	118,807		2030 B		7400	NA		1580 B	
Manganese	17	50 s	ND	840 n		23.8		21.8	NA		15.6	
Mercury	0.12	2	2	11 n		0.19 B			NA			
Potassium	5,400	ND	ND	297,016		1190 B		1840 B	NA		1830 B	
Selenium	9.7	50 s	ND	180					NA			
Sodium	18,222	160,000 p	ND	396,022		2680 B		7600	NA		2790 B	
Vanadium	20.6	49 st	ND	260 n				3.8 B	NA			
Zinc	4	5000 s	ND	11,000 n		2.6 B		4.8 B	NA		6 B	
Radiological, pCi/L												
Gross Alpha	13	15	15	ND		2.3		10.4	NA		1.3	
Gross Beta	9.5	ND	ND	ND		5.4		7.3	NA		3.7	

Appendix B
Table B-3. Summary of Detections in Groundwater Analytical Results
(Permanent Monitoring Wells Only)
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	Background[1] Screening	FDEPGCTL	Primary FEDMCL	RBC[2] for Tap Water	02G01103D	02G01202	02G01301	02G01302	02G01401	02G01402	02G01501	02G01502
Sampling Date					20-Nov-98	19-Nov-98	22-Aug-97	10-Dec-98	22-Aug-97	8-Dec-98	29-Dec-97	9-Dec-98
Volatile Organics, ug/L												
1,2,4-Trimethylbenzene		10 o	ND	12 n			1.2					
1,3,5-Trimethylbenzene		10 o	ND	12 n				1.6 J				
2-Butanone		4200 st	ND	1900 n								
4-Isopropyltoluene		ND	ND	ND							0.67	
Benzene		1 p	5	0.36 c			83	71				
Bromodichloromethane		1 c	ND	0.17 c								
Chloroform		5.7 c	ND	0.15 c					0.9			
Chloromethane		2.7 c	ND	1.4 c								
cis-1,2-Dichloroethene		63 p	70	61 n	0.49 J		4.1	3.3				
Ethylbenzene		30 st	700	1300 n			1.9	0.5 J				
Isopropylbenzene		0.8 st										
Methylene chloride		5 c				0.67 J		0.62 J		0.65 J		0.51 J
o-Dichlorobenzene												
Trichloroethene		3 p	5	1.6 c			0.98					
Xylene (total)		20 st	10000	12000 n								
Light gases, ug/L												
Methane		ND			210 D	8		770 D		920 D		89 D
Ethane		ND						1.4				
General Chemistry, mg/L												
Total Organic Carbon					3	2		3		3		18
Semivolatile Organics, ug/L												
bis(2-Ethylhexyl)phthalate		6 p	6	4.8 c			NA		NA		NA	
Phenanthrene		210 st	ND	ND			NA		NA		NA	
Phenol		10 o	ND	22000 n			NA		NA		NA	

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Table B-3. Summary of Detections in Groundwater Analytical Results
(Permanent Monitoring Wells Only)
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	Background Screening[1]	FDEPGCTL	Primary FEDMCL	RBC[2] for Tap Water	02G01103D	02G01202	02G01301	02G01302	02G01401	02G01402	02G01501	02G01502
Sampling Date					20-Nov-98	19-Nov-98	22-Aug-97	10-Dec-98	22-Aug-97	8-Dec-98	29-Dec-97	9-Dec-98
Inorganics, ug/L												
Aluminum	4,067	200 s	ND	37,000 n			NA		NA		NA	
Antimony	4.1	6 p	6	15 n			NA		NA		NA	
Arsenic	5	50 p	50	0.045/11 c/n			NA		NA		NA	
Barium	31.4	2,000 p	2,000	2,600 n			NA		NA		NA	
Beryllium	ND	4	4	0.016 c			NA		NA		NA	
Calcium	36,830	ND	ND	1,000,000			NA		NA		NA	
Chromium	7.8	100	100	ND			NA		NA		NA	
Copper	5.4	1,000 s	1,300	1,500 n			NA		NA		NA	
Iron	1,227	300 s	ND	11,000 n			NA		NA		NA	
Lead	4	15 p	15	15			NA		NA		NA	
Magnesium	4,560	ND	ND	118,807			NA		NA		NA	
Manganese	17	50 s	ND	840 n			NA		NA		NA	
Mercury	0.12	2	2	11 n			NA		NA		NA	
Potassium	5,400	ND	ND	297,016			NA		NA		NA	
Selenium	9.7	50 s	ND	180			NA		NA		NA	
Sodium	18,222	160,000 p	ND	396,022			NA		NA		NA	
Vanadium	20.6	49 st	ND	260 n			NA		NA		NA	
Zinc	4	5000 s	ND	11,000 n			NA		NA		NA	
Radiological, pCi/L												
Gross Alpha	13	15	15	ND			NA		NA		NA	
Gross Beta	9.5	ND	ND	ND			NA		NA		NA	

Appendix B
Table B-3. Summary of Detections in Groundwater Analytical Results
(Permanent Monitoring Wells Only)
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	Background Screening[1]		FDEPGCTL		Primary FEDMCL		RBC[2] for Tap Water		02G01602		02G01702		02G01802		02G01901		02G01901D		02G01902		02G02001		02G02101	
Sampling Date									9-Dec-98		9-Dec-98		9-Dec-98		29-Dec-97		29-Dec-97		9-Dec-98		18-Nov-98		7-Dec-98	
Volatile Organics, ug/L																								
1,2,4-Trimethylbenzene			10	o	ND		12	n																
1,3,5-Trimethylbenzene			10	o	ND		12	n																
2-Butanone			4200	st	ND		1900	n													2.9	J	4.5	J
4-Isopropyltoluene			ND		ND		ND																	
Benzene			1	p	5		0.36	c							52.1		53.5		38		46		50	
Bromodichloromethane			1	c	ND		0.17	c																
Chloroform			5.7	c	ND		0.15	c																
Chloromethane			2.7	c	ND		1.4	c																
cis-1,2-Dichloroethene			63	p	70		61	n							1.75		1.68		1.9	J	3.7	J	3.7	
Ethylbenzene			30	st	700		1300	n							0.7		0.66		0.67	J			1	J
Isopropylbenzene			0.8	st																	1.3	J		
Methylene chloride			5	c									0.58	J					0.69	J	1	J	0.74	J
o-Dichlorobenzene													0.77	J										
Trichloroethene			3	p	5		1.6	c													1.1	J	1.5	J
Xylene (total)			20	st	10000		12000	n							2.94		2.8		2.11					
Light gases, ug/L																								
Methane			ND						78	D	170	D	23						240	D	340	E	680	D
Ethane			ND																0.74		0.68		1.3	
General Chemistry, mg/L																								
Total Organic Carbon									2		2		3						2		4		7	
Semivolatile Organics, ug/L																								
bis(2-Ethylhexyl)phthalate			6	p	6		4.8	c							NA		NA							
Phenanthrene			210	st	ND		ND								NA		NA							
Phenol			10	o	ND		22000	n							NA		NA							

Appendix B

Table B-3. Summary of Detections in Groundwater Analytical Results

(Permanent Monitoring Wells Only)

Herndon Annex

Naval Training Center, Orlando

Orlando, FL

Sample ID	Background Screening[1]	FDEPGCTL		Primary FEDMCL	RBC[2] for Tap Water		02G01602	02G01702	02G01802	02G01901	02G01901D	02G01902	02G02001	02G02101
Sampling Date							9-Dec-98	9-Dec-98	9-Dec-98	29-Dec-97	29-Dec-97	9-Dec-98	18-Nov-98	7-Dec-98
Inorganics, ug/L														
Aluminum	4,067	200	s	ND	37,000	n				NA	NA	NA	NA	NA
Antimony	4.1	6	p	6	15	n				NA	NA	NA	NA	NA
Arsenic	5	50	p	50	0.045/11	c/n				NA	NA	NA	NA	NA
Barium	31.4	2,000	p	2,000	2,600	n				NA	NA	NA	NA	NA
Beryllium	ND	4		4	0.016	c				NA	NA	NA	NA	NA
Calcium	36,830	ND		ND	1,000,000					NA	NA	NA	NA	NA
Chromium	7.8	100		100	ND					NA	NA	NA	NA	NA
Copper	5.4	1,000	s	1,300	1,500	n				NA	NA	NA	NA	NA
Iron	1,227	300	s	ND	11,000	n				NA	NA	NA	NA	NA
Lead	4	15	p	15	15					NA	NA	NA	NA	NA
Magnesium	4,560	ND		ND	118,807					NA	NA	NA	NA	NA
Manganese	17	50	s	ND	840	n				NA	NA	NA	NA	NA
Mercury	0.12	2		2	11	n				NA	NA	NA	NA	NA
Potassium	5,400	ND		ND	297,016					NA	NA	NA	NA	NA
Selenium	9.7	50	s	ND	180					NA	NA	NA	NA	NA
Sodium	18,222	160,000	p	ND	396,022					NA	NA	NA	NA	NA
Vanadium	20.6	49	st	ND	260	n				NA	NA	NA	NA	NA
Zinc	4	5000	s	ND	11,000	n				NA	NA	NA	NA	NA
Radiological, pCi/L														
Gross Alpha	13	15		15	ND					NA	NA	NA	NA	NA
Gross Beta	9.5	ND		ND	ND					NA	NA	NA	NA	NA

Appendix B
Table B-3. Summary of Detections in Groundwater Analytical Results
(Permanent Monitoring Wells Only)
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	Background[1] Screening		FDEPGCTL		Primary FEDMCL		RBC[2] for Tap Water		02G02101D		02G10001	
Sampling Date									7-Dec-98		30-Jul-97	
Volatile Organics, ug/L												
1,2,4-Trimethylbenzene			10	o	ND		12	n				
1,3,5-Trimethylbenzene			10	o	ND		12	n	3.4	J		
2-Butanone			4200	st	ND		1900	n				
4-Isopropyltoluene			ND		ND		ND					
Benzene			1	p	5		0.36	c	56			
Bromodichloromethane			1	c	ND		0.17	c				
Chloroform			5.7	c	ND		0.15	c				
Chloromethane			2.7	c	ND		1.4	c			0.54	
cis-1,2-Dichloroethene			63	p	70		61	n	4			
Ethylbenzene			30	st	700		1300	n	1	J		
Isopropylbenzene			0.8	st								
Methylene chloride			5	c					0.65	J		
o-Dichlorobenzene												
Trichloroethene			3	p	5		1.6	c	1.6	J		
Xylene (total)			20	st	10000		12000	n				
Light gases, ug/L												
Methane			ND						660	D		
Ethane			ND						1.2			
General Chemistry, mg/L												
Total Organic Carbon									7			
Semivolatile Organics, ug/L												
bis(2-Ethylhexyl)phthalate			6	p	6		4.8	c			NA	
Phenanthrene			210	st	ND		ND				NA	
Phenol			10	o	ND		22000	n			NA	

Appendix B

Table B-3. Summary of Detections in Groundwater Analytical Results
(Permanent Monitoring Wells Only)
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	Background Screening[1]		FDEPGCTL		Primary FEDMCL		RBC[2] for Tap Water		02G02101D		02G10001	
Sampling Date									7-Dec-98		30-Jul-97	
Inorganics, ug/L												
Aluminum	4,067		200	s	ND		37,000	n	NA		NA	
Antimony	4.1		6	p	6		15	n	NA		NA	
Arsenic	5		50	p	50		0.045/11	c/n	NA		NA	
Barium	31.4		2,000	p	2,000		2,600	n	NA		NA	
Beryllium	ND		4		4		0.016	c	NA		NA	
Calcium	36,830		ND		ND		1,000,000		NA		NA	
Chromium	7.8		100		100		ND		NA		NA	
Copper	5.4		1,000	s	1,300		1,500	n	NA		NA	
Iron	1,227		300	s	ND		11,000	n	NA		NA	
Lead	4		15	p	15		15		NA		NA	
Magnesium	4,560		ND		ND		118,807		NA		NA	
Manganese	17		50	s	ND		840	n	NA		NA	
Mercury	0.12		2		2		11	n	NA		NA	
Potassium	5,400		ND		ND		297,016		NA		NA	
Selenium	9.7		50	s	ND		180		NA		NA	
Sodium	18,222		160,000	p	ND		396,022		NA		NA	
Vanadium	20.6		49	st	ND		260	n	NA		NA	
Zinc	4		5000	s	ND		11,000	n	NA		NA	
Radiological, pCi/L												
Gross Alpha	13		15		15		ND		NA		NA	
Gross Beta	9.5		ND		ND		ND		NA		NA	

Appendix B
Table B-3. Notes for Summary of Detections in
Groundwater Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

NOTES:

1 Groundwater background screening value is twice the average of detected concentrations for inorganic analytes.

2 RBC = Risk-Based Concentration Table, USEPA Region III, May 1996, R.L. Smith. RBC for chromium is based on chromium VI. RBC for lead is not available, value is treatment technology action limit for lead in drinking water distribution system identified in Drinking Water Standards and Health Advisories (USEPA, 1995). For essential nutrients (calcium, magnesium, potassium, and sodium) screening values were derived based on recommended daily allowances (RDAs). Value for copper is a treatment level.

o = Organoleptic.
p = Primary Standard
s = Secondary Standard.
st = Systemic Toxicant

n = noncarcinogenic effects.
c = carcinogenic effects.
NA = Not analyzed.
ND = Not determined.
USEPA = U.S. Environmental Protection Agency.
FDEPGCTL = Florida Department of Environmental Protection, Groundwater Cleanup Target Levels, Chapter 62-785 FAC, April 30, 1998.
FEDMCL= Federal Maximum Contaminant Levels, Primary Drinking Water Regulations and Health Advisories, February 1996.
B = Reported concentration is between the instrument detection limit (IDL) and the contract required detection limit (CRDL).
J = Reported concentration is an estimated quantity.
ug/l = micrograms per liter.
mg/l = miligrams per liter.
pCi/l = picocuries per liter.
Bold/shaded numbers indicate exceedance of groundwater guidance and background.
Blank space indicates analyte/compound was not detected at the reporting limit.

TABLE B-4

SUMMARY OF POSITIVE DETECTIONS IN SURFACE WATER

Appendix B
Table B-4. Summary of Detections in Surface Water ("S") and Wastewater ("Z") Analytical Results
Herndon Annex

Naval Training Center
Orlando, FL

Sample ID	Florida Surface Water Standard	02W00101		02W00201		02Z00101	
Sampling Date		11-Apr-97		11-Apr-97		21-Sep-94	
Volatile Organics, ug/L							
Tetrachloroethene	8.85	6.2		0.23	J		
Trichloroethene	80.7	0.2	J				
Inorganics, ug/L							
Aluminum	ND	NA		NA		22.3	B
Barium	ND	NA		NA		16.8	B
Calcium	ND	NA		NA		27300	
Cobalt	ND	NA		NA		3.6	B
Copper	500 a	NA		NA		3.2	B
Iron	1000	NA		NA		992	
Lead	50 a	NA		NA		1.6	B
Magnesium	ND	NA		NA		1640	B
Manganese	ND	NA		NA		22.2	
Potassium	ND	NA		NA		8790	
Sodium	ND	NA		NA		742	B
Zinc	250	NA		NA		3.6	B

NOTES:
Chapter 62-302. Florida Administrative Code Surface Water Quality Standards; 1995
a = Hardness dependent criterion. Average water hardness of 30 mg/L $CaCO_3$ was used to calculate criteria.
"W" = Surface Water; "Z" = Wastewater
ug/L = micrograms per liter.
ND = Not determined
J = Reported concentration is an estimated quantity.
B = Reported concentration is between the instrument detection limit (IDL) and
Contract Required Detection Limit (CRDL).
Bold/shaded values indicate exceedance of surface water screening value.

APPENDIX C

SUMMARY OF ANALYTICAL RESULTS

TABLE C-1

SUMMARY OF SURFACE SOIL ANALYTICAL RESULTS, TARGET ANALYTE LIST, AND TARGET COMPOUND LIST ANALYSES

Appendix C
Table C-1. Summary of Surface Soil Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02S01201	02S01301	02S01401	02S01501	02S01601	02S01701	02S01801	02S01901	02S02001	02S02001D	02S02101
Lab ID	G7783001	G7783002	G7783003	G7783004	G7801001	G7801002	G7801003	G7801004	G7801005	G7801006	G7801007
Sampling Date	9-Jun-95	9-Jun-95	9-Jun-95	9-Jun-95	13-Jun-95	13-Jun-95	13-Jun-95	13-Jun-95	13-Jun-95	13-Jun-95	13-Jun-95
Volatile Organics, ug/kg											
1,1,1-Trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
1,2-Dichloroethene (total)	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
2-Butanone	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
2-Hexanone	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
Acetone	10 U	11 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
Benzene	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
Carbon disulfide	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
Chloroform	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
Chloromethane	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
Methylene chloride	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
Toluene	10 U	10 U	10 U	10 U	1 J	10 U	2 J	10 U	1 J	1 J	10 U
trans-1,3-Dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
Vinyl chloride	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
Xylene (total)	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U
Semivolatile Organics, ug/kg											
1,2,4-Trichlorobenzene	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
1,2-Dichlorobenzene	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U

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Sample ID	02S01201	02S01301	02S01401	02S01501	02S01601	02S01701	02S01801	02S01901	02S02001	02S02001D	02S02101
Lab ID	G7783001	G7783002	G7783003	G7783004	G7801001	G7801002	G7801003	G7801004	G7801005	G7801006	G7801007
Sampling Date	9-Jun-95	9-Jun-95	9-Jun-95	9-Jun-95	13-Jun-95	13-Jun-95	13-Jun-95	13-Jun-95	13-Jun-95	13-Jun-95	13-Jun-95
1,3-Dichlorobenzene	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
1,4-Dichlorobenzene	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
2,2'-oxybis(1-Chloropropane)	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
2,4,5-Trichlorophenol	850 U	880 U	880 U	860 U	870 U	880 U	880 U	860 U	870 U	870 U	870 U
2,4,6-Trichlorophenol	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
2,4-Dichlorophenol	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
2,4-Dimethylphenol	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
2,4-Dinitrophenol	850 U	880 U	880 U	860 U	870 U	880 U	880 U	860 U	870 U	870 U	870 U
2,4-Dinitrotoluene	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
2,6-Dinitrotoluene	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
2-Chloronaphthalene	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
2-Chlorophenol	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
2-Methylnaphthalene	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
2-Methylphenol	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
2-Nitroaniline	850 U	880 U	880 U	860 U	870 U	880 U	880 U	860 U	870 U	870 U	870 U
2-Nitrophenol	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
3,3'-Dichlorobenzidine	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
3-Nitroaniline	850 U	880 U	880 U	860 U	870 U	880 U	880 U	860 U	870 U	870 U	870 U
4,6-Dinitro-2-methylphenol	850 U	880 U	880 U	860 U	870 U	880 U	880 U	860 U	870 U	870 U	870 U
4-Bromophenyl-phenylether	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
4-Chloro-3-methylphenol	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
4-Chloroaniline	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
4-Chlorophenyl-phenylether	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
4-Methylphenol	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
4-Nitroaniline	850 U	880 U	880 U	860 U	870 U	880 U	880 U	860 U	870 U	870 U	870 U
4-Nitrophenol	850 U	880 U	880 U	860 U	870 U	880 U	880 U	860 U	870 U	870 U	870 U
Acenaphthene	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
Acenaphthylene	340 U	240 J	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
Anthracene	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
Benzo(a)anthracene	340 U	410	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
Benzo(a)pyrene	340 U	700	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
Benzo(b)fluoranthene	340 U	680	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
Benzo(g,h,i)perylene	340 U	1100	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
Benzo(k)fluoranthene	340 U	610	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
bis(2-Chloroethoxy)methane	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
bis(2-Chloroethyl)ether	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U
bis(2-Ethylhexyl)phthalate	340 U	350 U	350 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	350 U

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Sample ID	02S01201		02S01301		02S01401		02S01501		02S01601		02S01701		02S01801		02S01901		02S02001		02S02001D		02S02101	
Lab ID	G7783001		G7783002		G7783003		G7783004		G7801001		G7801002		G7801003		G7801004		G7801005		G7801006		G7801007	
Sampling Date	9-Jun-95		9-Jun-95		9-Jun-95		9-Jun-95		13-Jun-95		13-Jun-95		13-Jun-95		13-Jun-95		13-Jun-95		13-Jun-95		13-Jun-95	
Butylbenzylphthalate	340	U	350	U	350	U	340	U	350	U	350	U	350	U	340	U	350	U	350	U	350	U
Carbazole	340	U	350	U	350	U	340	U	350	U	350	U	350	U	340	U	350	U	350	U	350	U
Chrysene	340	U	700		350	U	340	U	350	U	350	U	350	U	340	U	350	U	350	U	350	U
Di-n-butylphthalate	340	U	350	U	350	U	340	U	350	U	350	U	350	U	340	U	350	U	350	U	350	U
Di-n-octylphthalate	340	U	350	U	350	U	340	U	350	U	350	U	350	U	340	U	350	U	350	U	350	U
Dibenz(a,h)anthracene	340	U	190	J	350	U	340	U	350	U	350	U	350	U	340	U	350	U	350	U	350	U
Dibenzofuran	340	U	350	U	350	U	340	U	350	U	350	U	350	U	340	U	350	U	350	U	350	U
Diethylphthalate	340	U	350	U	350	U	340	U	350	U	350	U	350	U	340	U	350	U	350	U	350	U
Dimethylphthalate	340	U	350	U	350	U	340	U	350	U	350	U	350	U	340	U	350	U	350	U	350	U
Fluoranthene	340	U	940		350	U	340	U	350	U	350	U	350	U	340	U	350	U	350	U	350	U
Fluorene	340	U	350	U	350	U	340	U	350	U	350	U	350	U	340	U	350	U	350	U	350	U
Hexachlorobenzene	340	U	350	U	350	U	340	U	350	U	350	U	350	U	340	U	350	U	350	U	350	U
Hexachlorobutadiene	340	U	350	U	350	U	340	U	350	U	350	U	350	U	340	U	350	U	350	U	350	U
Hexachlorocyclopentadiene	340	U	350	U	350	U	340	U	350	U	350	U	350	U	340	U	350	U	350	U	350	U
Hexachloroethane	340	U	350	U	350	U	340	U	350	U	350	U	350	U	340	U	350	U	350	U	350	U
Indeno(1,2,3-cd)pyrene	340	U	670		350	U	340	U	350	U	350	U	350	U	340	U	350	U	350	U	350	U
Isophorone	340	U	350	U	350	U	340	U	350	U	350	U	350	U	340	U	350	U	350	U	350	U
N-Nitroso-di-n-propylamine	340	U	350	U	350	U	340	U	350	U	350	U	350	U	340	U	350	U	350	U	350	U
N-Nitrosodiphenylamine (1)	340	U	350	U	350	U	340	U	350	U	350	U	350	U	340	U	350	U	350	U	350	U
Naphthalene	340	U	350	U	350	U	340	U	350	U	350	U	350	U	340	U	350	U	350	U	350	U
Nitrobenzene	340	U	350	U	350	U	340	U	350	U	350	U	350	U	340	U	350	U	350	U	350	U
Pentachlorophenol	850	U	880	U	880	U	860	U	870	U	880	U	880	U	860	U	870	U	870	U	870	U
Phenanthrene	340	U	180	J	350	U	340	U	350	U	350	U	350	U	340	U	350	U	350	U	350	U
Phenol	340	U	350	U	350	U	340	U	350	U	350	U	350	U	340	U	350	U	350	U	350	U
Pyrene	340	U	970		350	U	340	U	350	U	350	U	350	U	340	U	350	U	350	U	350	U
Pesticides/PCBs, ug/kg																						
4,4'-DDD	3.4	U	18	U	3.5	U	3.4	U	6.9	U	8.7	U	6.9	U	3.4	U	3.4	U	3.4	U	130	D
4,4'-DDE	3.9		18	U	1.7	J	2.3	J	6.9	U	8.7	U	4	J	3.4	U	3.4	U	3.4	U	14	
4,4'-DDT	4.5		18	U	5.2		5.5		6.9	U	8.7	U	13		3.4	U	3.4	U	3.4	U	8.7	
Aldrin	1.8	U	9.2	U	1.8	U	1.8	U	3.5	U	4.5	U	3.6	U	1.8	U	1.8	U	1.8	U	1.8	U
alpha-BHC	1.8	U	9.2	U	1.8	U	1.8	U	3.5	U	4.5	U	3.6	U	1.8	U	1.8	U	1.8	U	1.8	U
alpha-Chlordane	1.8	U	9.2	U	1.8	U	1.8	U	3.5	U	4.5	U	3.4	J	1.8	U	1.8	U	1.8	U	2.7	
Aroclor-1016	34	U	180	U	35	U	34	U	69	U	87	U	69	U	34	U	34	U	34	U	34	U
Aroclor-1221	69	U	360	U	71	U	70	U	140	U	180	U	140	U	70	U	70	U	70	U	70	U
Aroclor-1232	34	U	180	U	35	U	34	U	69	U	87	U	69	U	34	U	34	U	34	U	34	U
Aroclor-1242	34	U	180	U	35	U	34	U	69	U	87	U	69	U	34	U	34	U	34	U	34	U
Aroclor-1248	34	U	180	U	35	U	34	U	69	U	87	U	69	U	34	U	34	U	34	U	34	U

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Sample ID	02S01201		02S01301		02S01401		02S01501		02S01601		02S01701		02S01801		02S01901		02S02001		02S02001D		02S02101	
Lab ID	G7783001		G7783002		G7783003		G7783004		G7801001		G7801002		G7801003		G7801004		G7801005		G7801006		G7801007	
Sampling Date	9-Jun-95		9-Jun-95		9-Jun-95		9-Jun-95		13-Jun-95		13-Jun-95		13-Jun-95		13-Jun-95		13-Jun-95		13-Jun-95		13-Jun-95	
Aroclor-1254	34	U	180	U	35	U	34	U	69	U	87	U	70		34	U	34	U	34	U	34	U
Aroclor-1260	34	U	180	U	35	U	34	U	69	U	87	U	69	U	34	U	34	U	34	U	34	U
beta-BHC	1.8	U	9.2	U	1.8	U	1.8	U	3.5	U	4.5	U	3.6	U	1.8	U	1.8	U	1.8	U	1.8	U
delta-BHC	1.8	U	9.2	U	1.8	U	1.8	U	3.5	U	4.5	U	3.6	U	1.8	U	1.8	U	1.8	U	1.8	U
Dieldrin	3.4	U	18	U	3.5	U	3.4	U	6.9	U	8.7	U	6.9	U	3.4	U	3.4	U	3.4	U	3.4	U
Endosulfan I	1.8	U	9.2	U	1.8	U	1.8	U	3.5	U	4.5	U	3.6	U	1.8	U	1.8	U	1.8	U	1.8	U
Endosulfan II	3.4	U	18	U	3.5	U	3.4	U	6.9	U	8.7	U	6.9	U	3.4	U	3.4	U	3.4	U	3.4	U
Endosulfan sulfate	3.4	U	18	U	3.5	U	3.4	U	6.9	U	8.7	U	6.9	U	3.4	U	3.4	U	3.4	U	3.4	U
Endrin	3.4	U	18	U	3.5	U	3.4	U	6.9	U	8.7	U	6.9	U	3.4	U	3.4	U	3.4	U	3.4	U
Endrin aldehyde	3.4	U	18	U	3.5	U	3.4	U	6.9	U	8.7	U	6.9	U	3.4	U	3.4	U	3.4	U	3.4	U
Endrin ketone	3.4	U	18	U	3.5	U	3.4	U	6.9	U	8.7	U	6.9	U	3.4	U	3.4	U	3.4	U	3.4	U
gamma-BHC (Lindane)	1.8	U	9.2	U	1.8	U	1.8	U	3.5	U	4.5	U	3.6	U	1.8	U	1.8	U	1.8	U	1.8	U
gamma-Chlordane	1.8	U	9.2	U	1.8	U	1.8	U	3.5	U	4.5	U	3.9	P	1.8	U	1.8	U	1.8	U	2.8	J
Heptachlor	1.8	U	9.2	U	1.8	U	1.8	U	3.5	U	4.5	U	3.6	U	1.8	U	1.8	U	1.8	U	1.8	U
Heptachlor epoxide	1.8	U	9.2	U	1.8	U	1.8	U	3.5	U	4.5	U	3.6	U	1.8	U	1.8	U	1.8	U	1.8	U
Methoxychlor	18	U	92	U	18	U	18	U	35	U	45	U	36	U	18	U	18	U	18	U	18	U
Toxaphene	180	U	920	U	180	U	180	U	350	U	450	U	360	U	180	U	180	U	180	U	180	U
Inorganics, mg/kg																						
Aluminum	580	J	216	J	428	J	689	J	777	J	1350	J	732	J	655	J	414	J	380	J	371	J
Antimony	6	U	6.4	U	6.2	U	6.1	U	6.2	U	6.2	U	6.6	U	6.1	U	6.2	U	6.2	U	6.2	U
Arsenic	1.7	U	0.93	U	0.6	U	0.39	U	0.4	U	0.4	U	0.45	U	0.39	U	0.39	UJ	0.39	UJ	0.58	U
Barium	12.2	B	2.2	B	6.4	B	6.9	B	4.7	B	5.9	B	5.5	B	1.9	B	0.8	B	0.68	B	0.26	B
Beryllium	0.02	U	0.02	U	0.02	B	0.02	U	0.03	B	0.04	B	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
Cadmium	0.63	U	0.67	U	0.65	U	0.64	U	0.65	U	0.65	U	0.69	U	0.63	U	0.65	U	0.65	U	0.65	U
Calcium	973	J	58400	J	482	J	614	J	9270	J	7870	J	2150	J	472	J	356	J	686	J	40.4	J
Chromium	1.6	B	1.9	B	0.9	B	1.8	B	1.8	B	1.9	B	1.8	B	0.63	U	0.65	U	0.69	B	0.65	U
Cobalt	0.59	U	0.62	U	0.61	U	0.6	U	0.61	U	0.61	U	0.64	U	0.59	U	0.6	U	0.6	U	0.61	U
Copper	5.9		1.8	B	4.7	B	9.3		3.1	B	2.1	B	3.8	B	0.48	B	0.45	B	0.29	U	0.3	U
Iron	1760	J	173	J	264	J	1320	J	779	J	434	J	431	J	425	J	85	J	79.7	J	38.7	J
Lead	30.1	J	23.2	J	16.5	J	2.7	J	8.7	J	6.5	J	25	J	1.7	J	1.3	J	1.3	J	1.8	J
Magnesium	123	B	353	B	19.5	B	37.5	B	93.2	B	95	B	169	B	23.8	B	9	B	13.5	B	4.3	U
Manganese	12.9		6.9		2.6	B	8.3		6.5		5.5		8.1		2.6	B	0.79	B	0.54	B	0.27	B
Mercury	0.65		0.03	B	0.03	B	0.04	B	0.05		0.66		0.11		0.02	U	0.02	U	0.02	U	0.02	U
Nickel	2.9	U	3	U	3	U	2.9	U	3	U	3	U	3.1	U	2.9	U	3	U	3	U	3	U
Potassium	90.6	U	95.2	U	93.1	U	91.4	U	92.8	U	93.2	U	98.3	U	90.8	U	92.4	U	92.5	U	93.6	U
Selenium	0.47	UJ	0.49	UJ	0.48	UJ	0.47	UJ	0.48	UJ	0.48	UJ	0.51	UJ	0.47	UJ	0.48	U	0.48	U	0.48	U
Silver	0.53	U	0.56	U	0.55	U	0.54	U	0.54	U	0.58	B	1.8	B	0.53	U	0.54	U	0.54	U	0.55	U

Appendix C
Table C-1. Summary of Surface Soil Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02S01201		02S01301		02S01401		02S01501		02S01601		02S01701		02S01801		02S01901		02S02001		02S02001D		02S02101	
Lab ID	G7783001		G7783002		G7783003		G7783004		G7801001		G7801002		G7801003		G7801004		G7801005		G7801006		G7801007	
Sampling Date	9-Jun-95		9-Jun-95		9-Jun-95		9-Jun-95		13-Jun-95		13-Jun-95		13-Jun-95		13-Jun-95		13-Jun-95		13-Jun-95		13-Jun-95	
Sodium	3.5	U	13.1	B	3.5	U	3.6	B	5.9	B	4.9	B	3.7	U	3.5	U	3.5	U	3.5	U	3.6	U
Thallium	0.37	UJ	0.39	UJ	0.38	UJ	0.37	UJ	0.38	UJ	0.49	B	0.4	U	0.37	UJ	0.38	U	0.75	B	1.1	B
Vanadium	0.55	B	2.6	B	0.55	B	1.3	B	1.9	B	1.9	B	0.55	U	1.2	B	0.52	U	0.52	U	0.53	U
Zinc	58.8		6.8		10.9		25.9		11.4		7.9		24.1		3.2	B	1.6	B	0.87	B	0.23	U

TABLE C-2

SUMMARY OF SUBSURFACE SOIL ANALYTICAL RESULTS

Appendix C
Table C-2. Summary of Subsurface Soil Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02B00101		02B00201		02B00301		02B00401		02B00501		02B00601		02B00701		02B00901		02B01101		02B01201		02B01301		02B01401	
Lab ID	G5696001		G5696002		G5696003		G5696004		G5696005		G5726005		G6854001		G6945001		G6945002		C7H190121001		C7H190121003		C7H190121002	
Sampling Date	6-Sep-94		6-Sep-94		6-Sep-94		6-Sep-94		6-Sep-94		7-Sep-94		8-Feb-95		22-Feb-95		22-Feb-95		13-Aug-97		15-Aug-97		14-Aug-97	
Volatile Organics, ug/kg																								
1,1,1-Trichloroethane	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
1,1,2,2-Tetrachloroethane	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
1,1,2-Trichloroethane	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
1,1-Dichloroethane	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
1,1-Dichloroethene	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
1,2-Dichloroethane	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
1,2-Dichloroethene (total)	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
1,2-Dichloropropane	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
2-Butanone	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
2-Hexanone	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
4-Methyl-2-pentanone	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
Acetone	12	U	66		82		11	U	12	U	12	U	12	U	160		82	D	81		63		12	U
Benzene	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
Bromodichloromethane	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
Bromoform	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
Bromomethane	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
Carbon disulfide	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
Carbon tetrachloride	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
Chlorobenzene	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
Chloroethane	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
Chloroform	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
Chloromethane	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
cis-1,3-Dichloropropene	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
Dibromochloromethane	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
Ethylbenzene	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
Methylene chloride	3	UJ	12	U	12	U	11	U	12	U	11	UJ	12	U	12	U	12	U	12	U	12	U	12	U
Styrene	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
Tetrachloroethene	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
Toluene	12	U	12	U	12	U	11	U	12	U	12	U	10	J	12	U	12	U	12	U	12	U	12	U
trans-1,3-Dichloropropene	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
Trichloroethene	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
Vinyl chloride	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
Xylene (total)	12	U	12	U	12	U	11	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U	12	U
Semivolatile Organics, ug/kg																								
1,2,4-Trichlorobenzene	NA		NA		NA		NA		NA		400	U	370	U	390	U	400	U	NA		NA		NA	
1,2-Dichlorobenzene	NA		NA		NA		NA		NA		400	U	370	U	390	U	400	U	NA		NA		NA	
1,3-Dichlorobenzene	NA		NA		NA		NA		NA		400	U	370	U	390	U	400	U	NA		NA		NA	
1,4-Dichlorobenzene	NA		NA		NA		NA		NA		400	U	370	U	390	U	400	U	NA		NA		NA	

Appendix C
Table C-2. Summary of Subsurface Soil Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02B00101	02B00201	02B00301	02B00401	02B00501	02B00601	02B00701	02B00901	02B01101	02B01201	02B01301	02B01401
Lab ID	G5696001	G5696002	G5696003	G5696004	G5696005	G5726005	G6854001	G6945001	G6945002	C7H190121001	C7H190121003	C7H190121002
Sampling Date	6-Sep-94	6-Sep-94	6-Sep-94	6-Sep-94	6-Sep-94	7-Sep-94	8-Feb-95	22-Feb-95	22-Feb-95	13-Aug-97	15-Aug-97	14-Aug-97
2,2'-oxybis(1-Chloropropane)	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	990 U	920 U	980 U	1000 U	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	990 U	920 U	980 U	1000 U	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	990 U	920 U	980 U	1000 U	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	990 U	920 U	980 U	1000 U	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	990 U	920 U	980 U	1000 U	NA	NA	NA
4-Bromophenyl-phenylether	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
4-Chlorophenyl-phenylether	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
4-Methylphenol	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	990 U	920 U	980 U	1000 U	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	990 U	920 U	980 U	1000 U	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	400 U	140 J	390 U	220 J	NA	NA	NA
Butylbenzylphthalate	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	600	370 U	390 U	400 U	NA	NA	NA

Appendix C
Table C-2. Summary of Subsurface Soil Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02B00101	02B00201	02B00301	02B00401	02B00501	02B00601	02B00701	02B00901	02B01101	02B01201	02B01301	02B01401
Lab ID	G5696001	G5696002	G5696003	G5696004	G5696005	G5726005	G6854001	G6945001	G6945002	C7H190121001	C7H190121003	C7H190121002
Sampling Date	6-Sep-94	6-Sep-94	6-Sep-94	6-Sep-94	6-Sep-94	7-Sep-94	8-Feb-95	22-Feb-95	22-Feb-95	13-Aug-97	15-Aug-97	14-Aug-97
Di-n-octylphthalate	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Diethylphthalate	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Dimethylphthalate	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
N-Nitroso-di-n-propylamine	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
N-Nitrosodiphenylamine (1)	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	990 U	920 U	980 U	1000 U	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	400 U	370 U	390 U	400 U	NA	NA	NA
Pesticides/PCBs, ug/kg												
4,4'-DDD	NA	NA	NA	NA	NA	3.9 U	3.7 U	3.9 U	4 U	NA	NA	NA
4,4'-DDE	NA	NA	NA	NA	NA	3.9 U	3.7 U	3.9 U	4 U	NA	NA	NA
4,4'-DDT	NA	NA	NA	NA	NA	3.9 U	3.7 U	3.9 U	4 U	NA	NA	NA
Aldrin	NA	NA	NA	NA	NA	2 U	1.9 U	2 U	2 U	NA	NA	NA
alpha-BHC	NA	NA	NA	NA	NA	2 U	1.9 U	2 U	2 U	NA	NA	NA
alpha-Chlordane	NA	NA	NA	NA	NA	2 U	1.9 U	2 U	2 U	NA	NA	NA
Aroclor-1016	NA	NA	NA	NA	NA	39 U	37 U	39 U	40 U	NA	NA	NA
Aroclor-1221	NA	NA	NA	NA	NA	80 U	74 U	80 U	81 U	NA	NA	NA
Aroclor-1232	NA	NA	NA	NA	NA	39 U	37 U	39 U	40 U	NA	NA	NA
Aroclor-1242	NA	NA	NA	NA	NA	39 U	37 U	39 U	40 U	NA	NA	NA
Aroclor-1248	NA	NA	NA	NA	NA	39 U	37 U	39 U	40 U	NA	NA	NA
Aroclor-1254	NA	NA	NA	NA	NA	39 U	37 U	39 U	40 U	NA	NA	NA
Aroclor-1260	NA	NA	NA	NA	NA	39 U	37 U	39 U	40 U	NA	NA	NA
beta-BHC	NA	NA	NA	NA	NA	2 U	1.9 U	2 U	2 U	NA	NA	NA
delta-BHC	NA	NA	NA	NA	NA	2 U	1.9 U	2 U	2 U	NA	NA	NA
Dieldrin	NA	NA	NA	NA	NA	3.9 U	3.7 U	3.9 U	4 U	NA	NA	NA
Endosulfan I	NA	NA	NA	NA	NA	2 U	1.9 U	2 U	2 U	NA	NA	NA

Appendix C
Table C-2. Summary of Subsurface Soil Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02B00101	02B00201	02B00301	02B00401	02B00501	02B00601	02B00701	02B00901	02B01101	02B01201	02B01301	02B01401
Lab ID	G5696001	G5696002	G5696003	G5696004	G5696005	G5726005	G6854001	G6945001	G6945002	C7H190121001	C7H190121003	C7H190121002
Sampling Date	6-Sep-94	6-Sep-94	6-Sep-94	6-Sep-94	6-Sep-94	7-Sep-94	8-Feb-95	22-Feb-95	22-Feb-95	13-Aug-97	15-Aug-97	14-Aug-97
Endosulfan II	NA	NA	NA	NA	NA	3.9 U	3.7 U	3.9 U	4 U	NA	NA	NA
Endosulfan sulfate	NA	NA	NA	NA	NA	3.9 U	3.7 U	3.9 U	4 U	NA	NA	NA
Endrin	NA	NA	NA	NA	NA	3.9 U	3.7 U	3.9 U	4 U	NA	NA	NA
Endrin aldehyde	NA	NA	NA	NA	NA	3.9 U	3.7 U	3.9 U	4 U	NA	NA	NA
Endrin ketone	NA	NA	NA	NA	NA	3.9 U	3.7 U	3.9 U	4 U	NA	NA	NA
gamma-BHC (Lindane)	NA	NA	NA	NA	NA	2 U	1.9 U	2 U	2 U	NA	NA	NA
gamma-Chlordane	NA	NA	NA	NA	NA	2 U	1.9 U	2 U	2 U	NA	NA	NA
Heptachlor	NA	NA	NA	NA	NA	2 U	1.9 U	2 U	2 U	NA	NA	NA
Heptachlor epoxide	NA	NA	NA	NA	NA	2 U	1.9 U	2 U	2 U	NA	NA	NA
Methoxychlor	NA	NA	NA	NA	NA	20 U	19 U	20 U	20 U	NA	NA	NA
Toxaphene	NA	NA	NA	NA	NA	200 U	190 U	200 U	200 U	NA	NA	NA
Inorganics, mg/kg												
Aluminum	NA	NA	NA	NA	NA	540	669	227	1020	NA	NA	NA
Antimony	NA	NA	NA	NA	NA	4.6 U	5.5 U	5.4 U	5.3 U	NA	NA	NA
Arsenic	NA	NA	NA	NA	NA	0.88 U	0.46 U	0.66 B	0.7 B	NA	NA	NA
Barium	NA	NA	NA	NA	NA	2.7 J	0.57 B	0.34 B	1.7 B	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA	0.05 U	0.05 U	0.13 B	0.05 U	NA	NA	NA
Cadmium	NA	NA	NA	NA	NA	0.69 U	0.76 U	0.73 U	0.72 U	NA	NA	NA
Calcium	NA	NA	NA	NA	NA	137 B	364 B	274 B	700 B	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	2.8 U	0.92 U	1.4 B	2.9	NA	NA	NA
Cobalt	NA	NA	NA	NA	NA	0.71 U	0.49 U	0.47 U	0.47 U	NA	NA	NA
Copper	NA	NA	NA	NA	NA	1.1 B	0.54 U	0.52 U	12.9	NA	NA	NA
Iron	NA	NA	NA	NA	NA	309	102	30.7	66.7	NA	NA	NA
Lead	NA	NA	NA	NA	NA	2.2 J	1 U	0.4 UJ	2.5	NA	NA	NA
Magnesium	NA	NA	NA	NA	NA	10.6 B	12.6 B	11.1 B	19.9 B	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	2.6 B	0.61 B	1.1 B	0.65 B	NA	NA	NA
Mercury	NA	NA	NA	NA	NA	0.02 B	0.03 B	0.04 UJ	0.12	NA	NA	NA
Nickel	NA	NA	NA	NA	NA	2.2 U	2.3 U	2.3 U	2.2 U	NA	NA	NA
Potassium	NA	NA	NA	NA	NA	71.5 U	115 U	111 U	110 U	NA	NA	NA
Selenium	NA	NA	NA	NA	NA	0.47 U	0.56 U	0.54 U	0.53 U	NA	NA	NA
Silver	NA	NA	NA	NA	NA	0.61 U	0.66 U	0.64 U	0.63 U	NA	NA	NA
Sodium	NA	NA	NA	NA	NA	3.7 U	5.4 U	5.3 U	8.4 U	NA	NA	NA
Thallium	NA	NA	NA	NA	NA	0.31 U	0.44 U	0.43 U	0.42 U	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	0.63 U	0.51 U	0.5 U	2.1 B	NA	NA	NA
Zinc	NA	NA	NA	NA	NA	15.4	0.29 UJ	0.8 B	4.2 B	NA	NA	NA

TABLE C-3

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS (MONITORING WELLS ONLY)

Appendix C
Table C-3. Summary of Groundwater Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02G00101		02G00102		02G00102		02G00103		02G00201		02G00201D		02G00202		02G00203		02G00301		02G00401	
Lab ID	G5782001		G7818003		C127447002		A8L090188007		G5782002		G5782003		G7818002		A8L090188008		G5782004		G5782005	
Sampling Date	14-Sep-94		14-Jun-95		8-Aug-97		8-Dec-98		14-Sep-94		14-Sep-94		14-Jun-95		8-Dec-98		14-Sep-94		14-Sep-94	
Volatile Organics, ug/L																				
1,1,1,2-Tetrachloroethane	NQ		NQ		0.5	U	5	U	NQ		NQ		NQ		5	U	NQ		NQ	
1,1,1-Trichloroethane	1	U	1	U	0.5	U	5	U	1	U	1	U	1	U	5	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	0.5	U	5	U	1	U	1	U	1	U	5	U	1	U	1	U
1,1,2-Trichloroethane	1	U	1	U	0.5	U	5	U	1	U	1	U	1	U	5	U	1	U	1	U
1,1-Dichloroethane	1	U	1	U	0.5	U	5	U	1	U	1	U	1	U	5	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	0.5	U	5	U	1	U	1	U	1	U	5	U	1	U	1	U
1,1-Dichloropropene	NQ		NQ		0.5	U	5	U	NQ		NQ		NQ		5	U	NQ		NQ	
1,2,3-Trichlorobenzene	NQ		NQ		0.5	U	5	U	NQ		NQ		NQ		5	U	NQ		NQ	
1,2,4-Trichlorobenzene	NA		10	U	0.5	U			NA		NA		10	U			NA		NA	
1,2,3-Trichloropropane	NQ		NQ		0.5	U	5	U	NQ		NQ		NQ		5	U	NQ		NQ	
1,2,4-Trichlorobenzene							5	U							5	U				
1,2,4-Trimethylbenzene	NQ		NQ		0.5	U	5	U	NQ		NQ		NQ		5	U	NQ		NQ	
1,2-Dibromo-3-chloropropane	1	U	1	U	0.5	U	10	U	1	U	1	U	1	U	10	U	1	U	1	U
1,2-Dibromoethane	1	U	1	U	0.5	U	5	U	1	U	1	U	1	U	5	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	0.5	U			1	U	1	U	1	U			1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	0.5	U			1	U	1	U	1	U			1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	0.5	U			1	U	1	U	1	U			1	U	1	U
1,2-Dichloroethane	1	U	1	U	0.5	U	5	U	1	U	1	U	1	U	5	U	1	U	1	U
1,2-Dichloropropane	1	U	1	U	0.5	U	5	U	1	U	1	U	1	U	5	U	1	U	1	U
1,3,5-Trimethylbenzene	NQ		NQ		0.5	U	5	U	NQ		NQ		NQ		5	U	NQ		NQ	
1,3-Dichloropropane	NQ		NQ		0.5	U	5	U	NQ		NQ		NQ		5	U	NQ		NQ	
2,2-Dichloropropane	NQ		NQ		0.5	U	5	U	NQ		NQ		NQ		5	U	NQ		NQ	
2-Butanone	5	U	5	UR	NQ				5	U	5	U	5	UR			5	U	5	U
2-Chlorotoluene	NQ		NQ		0.5	U	5	U	NQ		NQ		NQ		5	U	NQ		NQ	
2-Hexanone	5	U	5	U	NQ				5	U	5	U	5	U			5	U	5	U
4-Chlorotoluene	NQ		NQ		0.5	U	5	U	NQ		NQ		NQ		5	U	NQ		NQ	
4-Isopropyltoluene	NQ		NQ		0.5	U			NQ		NQ		NQ				NQ		NQ	
4-Methyl-2-pentanone	5	U	5	U	NQ				5	U	5	U	5	U			5	U	5	U
Acetone	7	UJ	5	UR	NQ				5	U	5	U	5	UR			2	UJ	5	U
Benzene	1	U	1	U	0.5	U	5	U	1	U	1	U	1	U	5	U	1	U	1	U
Bromobenzene	NQ		NQ		0.5	U	5	U	NQ		NQ		NQ		5	U	NQ		NQ	
Bromochloromethane	1	U	1	U	0.5	U	5	U	1	U	1	U	1	U	5	U	1	U	1	U
Bromodichloromethane	1	U	1	U	0.5	U	5	U	1	U	1	U	1	U	5	U	1	U	1	U
Bromoform	1	U	1	U	0.5	U	5	U	1	U	1	U	1	U	5	U	1	U	1	U
Bromomethane	1	U	1	U	0.5	U	10	U	1	U	1	U	1	U	10	U	1	U	1	U
Carbon disulfide	0.6	UJ	1	U	NQ				1	U	1	U	1	U			1	U	1	U
Carbon tetrachloride	1	U	1	U	0.5	U	5	U	1	U	1	U	1	U	5	U	1	U	1	U
Chlorobenzene	1	U	1	U	0.5	U	5	U	1	U	1	U	1	U	5	U	1	U	1	U
Chlorodibromomethane							5	U							5	U				

Appendix C
Table C-3. Summary of Groundwater Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02G00101	02G00102	02G00102	02G00103	02G00201	02G00201D	02G00202	02G00203	02G00301	02G00401
Lab ID	G5782001	G7818003	C127447002	A8L090188007	G5782002	G5782003	G7818002	A8L090188008	G5782004	G5782005
Sampling Date	14-Sep-94	14-Jun-95	8-Aug-97	8-Dec-98	14-Sep-94	14-Sep-94	14-Jun-95	8-Dec-98	14-Sep-94	14-Sep-94
Chloroethane	1 U	1 U	0.5 U	10 U	1 U	1 U	1 U	10 U	1 U	1 U
Chloroform	0.3 J	1 U	0.5 U	5 U	1 U	1 U	1 U	5 U	1 U	1 U
Chloromethane	1 U	1 U	0.5 U	10 U	2 UJ	1 U	1 U	10 U	2	1 U
cis-1,2-Dichloroethene	1 U	1 U	0.5 U	2.5 U	1 U	1 U	1 U	2.5 U	1 U	1 U
cis-1,3-Dichloropropene	1 U	1 U	0.5 U	5 U	1 U	1 U	1 U	5 U	1 U	1 U
Dibromochloromethane	1 U	1 U	0.5 U		1 U	1 U	1 U		1 U	1 U
Dibromomethane	NQ	NQ	0.5 U	5 U	NQ	NQ	NQ	5 U	NQ	NQ
Dichlorodifluoromethane	NQ	NQ	0.5 U	10 U	NQ	NQ	NQ	10 U	NQ	NQ
Ethylbenzene	1 U	1 U	0.5 U	5 U	1 U	1 U	1 U	5 U	1 U	1 U
Hexachlorobutadiene	NA	10 U	0.5 U	5 U	NA	NA	10 U	5 U	NA	NA
Isopropylbenzene	NQ	NQ	0.5 U	5 U	NQ	NQ	NQ	5 U	NQ	NQ
m-Dichlorobenzene				5 U				5 U		
Methylene chloride	0.4 UJ	2 U	0.5 U	1.3 J	0.5 UJ	0.5 UJ	2 U	1.4 J	0.3 UJ	0.4 UJ
Naphthalene	NA	10 U	0.5 U	5 U	NA	NA	10 U	5 U	NA	NA
n-Butylbenzene	NQ	NQ	0.5 U	5 U	NQ	NQ	NQ	5 U	NQ	NQ
n-Propylbenzene	NQ	NQ	0.5 U	5 U	NQ	NQ	NQ	5 U	NQ	NQ
o-Dichlorobenzene				5 U				5 U		
p-Dichlorobenzene				5 U				5 U		
p-Isopropyltoluene				5 U				5 U		
sec-Butylbenzene	NQ	NQ	0.5 U	5 U	NQ	NQ	NQ	5 U	NQ	NQ
Styrene	1 U	1 U	0.5 U	5 U	1 U	1 U	1 U	5 U	1 U	1 U
tert-Butylbenzene	NQ	NQ	0.5 U	5 U	NQ	NQ	NQ	5 U	NQ	NQ
Tetrachloroethene	1 U	1 U	0.5 U	5 U	1 U	1 U	1 U	5 U	1 U	1 U
Toluene	1 U	1 U	0.5 U	5 U	1 U	1 U	1 U	5 U	1 U	1 U
trans-1,2-Dichloroethene	1 U	1 U	0.5 U	2.5 U	1 U	1 U	1 U	2.5 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	0.5 U	5 U	1 U	1 U	1 U	5 U	1 U	1 U
Trichloroethene	1 U	1 U	0.5 U	5 U	1 U	1 U	1 U	5 U	1 U	1 U
Trichlorofluoromethane	NQ	NQ	0.5 U	10 U	NQ	NQ	NQ	10 U	NQ	NQ
Vinyl chloride	1 U	1 U	0.5 U	10 U	1 U	1 U	1 U	10 U	1 U	1 U
m/p-Xylene	NQ	NQ	0.5 U	2.5 U	NQ	NQ	NQ	2.5 U	NQ	NQ
o-Xylene	NQ	NQ	0.5 U	2.5 U	NQ	NQ	NQ	2.5 U	NQ	NQ
Xylene (total)	1 U	1 U	*		1 U	1 U	1 U		1 U	1 U
Light gases, ug/L										
Methane				2.2				21		
Ethane				0.5 U				0.5 U		
Ethene				0.5 U				0.5 U		
General Chemistry, mg/L										
Total Organic Carbon				4				9		
Semivolatile Organics, ug/L										
2,2'-oxybis(1-Chloropropane)	NA	10 U	NA		NA	NA	10 U		NA	NA

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Table C-3. Summary of Groundwater Analytical Results
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Naval Training Center, Orlando
Orlando, FL

Sample ID	02G00101	02G00102	02G00102	02G00103	02G00201	02G00201D	02G00202	02G00203	02G00301	02G00401
Lab ID	G5782001	G7818003	C127447002	A8L090188007	G5782002	G5782003	G7818002	A8L090188008	G5782004	G5782005
Sampling Date	14-Sep-94	14-Jun-95	8-Aug-97	8-Dec-98	14-Sep-94	14-Sep-94	14-Jun-95	8-Dec-98	14-Sep-94	14-Sep-94
2,4,5-Trichlorophenol	NA	25 U	NA		NA	NA	25 U		NA	NA
2,4,6-Trichlorophenol	NA	10 U	NA		NA	NA	10 U		NA	NA
2,4-Dichlorophenol	NA	10 U	NA		NA	NA	10 U		NA	NA
2,4-Dimethylphenol	NA	10 U	NA		NA	NA	10 U		NA	NA
2,4-Dinitrophenol	NA	25 U	NA		NA	NA	25 U		NA	NA
2,4-Dinitrotoluene	NA	10 U	NA		NA	NA	10 U		NA	NA
2,6-Dinitrotoluene	NA	10 U	NA		NA	NA	10 U		NA	NA
2-Chloronaphthalene	NA	10 U	NA		NA	NA	10 U		NA	NA
2-Chlorophenol	NA	10 U	NA		NA	NA	10 U		NA	NA
2-Methylnaphthalene	NA	10 U	NA		NA	NA	10 U		NA	NA
2-Methylphenol	NA	10 U	NA		NA	NA	10 U		NA	NA
2-Nitroaniline	NA	25 U	NA		NA	NA	25 U		NA	NA
2-Nitrophenol	NA	10 U	NA		NA	NA	10 U		NA	NA
3,3'-Dichlorobenzidine	NA	10 U	NA		NA	NA	10 U		NA	NA
3-Nitroaniline	NA	25 U	NA		NA	NA	25 U		NA	NA
4,6-Dinitro-2-methylphenol	NA	25 U	NA		NA	NA	25 U		NA	NA
4-Bromophenyl-phenylether	NA	10 U	NA		NA	NA	10 U		NA	NA
4-Chloro-3-methylphenol	NA	10 U	NA		NA	NA	10 U		NA	NA
4-Chloroaniline	NA	10 U	NA		NA	NA	10 U		NA	NA
4-Chlorophenyl-phenylether	NA	10 U	NA		NA	NA	10 U		NA	NA
4-Methylphenol	NA	10 U	NA		NA	NA	10 U		NA	NA
4-Nitroaniline	NA	25 U	NA		NA	NA	25 U		NA	NA
4-Nitrophenol	NA	25 U	NA		NA	NA	25 U		NA	NA
Acenaphthene	NA	10 U	NA		NA	NA	10 U		NA	NA
Acenaphthylene	NA	10 U	NA		NA	NA	10 U		NA	NA
Anthracene	NA	10 U	NA		NA	NA	10 U		NA	NA
Benzo(a)anthracene	NA	10 U	NA		NA	NA	10 U		NA	NA
Benzo(a)pyrene	NA	0.2 U	NA		NA	NA	0.2 U		NA	NA
Benzo(b)fluoranthene	NA	10 U	NA		NA	NA	10 U		NA	NA
Benzo(g,h,i)perylene	NA	10 U	NA		NA	NA	10 U		NA	NA
Benzo(k)fluoranthene	NA	10 U	NA		NA	NA	10 U		NA	NA
bis(2-Chloroethoxy)methane	NA	10 U	NA		NA	NA	10 U		NA	NA
bis(2-Chloroethyl)ether	NA	10 U	NA		NA	NA	10 U		NA	NA
bis(2-Ethylhexyl)phthalate	NA	4	NA		NA	NA	4		NA	NA
Butylbenzylphthalate	NA	10 U	NA		NA	NA	10 U		NA	NA
Carbazole	NA	10 U	NA		NA	NA	10 U		NA	NA
Chrysene	NA	10 U	NA		NA	NA	10 U		NA	NA
Di-n-butylphthalate	NA	10 U	NA		NA	NA	10 U		NA	NA
Di-n-octylphthalate	NA	10 U	NA		NA	NA	10 U		NA	NA
Dibenz(a,h)anthracene	NA	10 U	NA		NA	NA	10 U		NA	NA

Appendix C
Table C-3. Summary of Groundwater Analytical Results
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Naval Training Center, Orlando
Orlando, FL

Sample ID	02G00101	02G00102	02G00102	02G00103	02G00201	02G00201D	02G00202	02G00203	02G00301	02G00401
Lab ID	G5782001	G7818003	C127447002	A8L090188007	G5782002	G5782003	G7818002	A8L090188008	G5782004	G5782005
Sampling Date	14-Sep-94	14-Jun-95	8-Aug-97	8-Dec-98	14-Sep-94	14-Sep-94	14-Jun-95	8-Dec-98	14-Sep-94	14-Sep-94
Dibenzofuran	NA	10 U	NA		NA	NA	10 U		NA	NA
Diethylphthalate	NA	10 U	NA		NA	NA	10 U		NA	NA
Dimethylphthalate	NA	10 U	NA		NA	NA	10 U		NA	NA
Fluoranthene	NA	10 U	NA		NA	NA	10 U		NA	NA
Fluorene	NA	10 U	NA		NA	NA	10 U		NA	NA
Hexachlorobenzene	NA	1 U	NA		NA	NA	1 U		NA	NA
Hexachlorocyclopentadiene	NA	10 U	NA		NA	NA	10 U		NA	NA
Hexachloroethane	NA	10 U	NA		NA	NA	10 U		NA	NA
Indeno(1,2,3-cd)pyrene	NA	10 U	NA		NA	NA	10 U		NA	NA
Isophorone	NA	10 U	NA		NA	NA	10 U		NA	NA
N-Nitroso-di-n-propylamine	NA	10 U	NA		NA	NA	10 U		NA	NA
N-Nitrosodiphenylamine (1)	NA	10 U	NA		NA	NA	10 U		NA	NA
Nitrobenzene	NA	10 U	NA		NA	NA	10 U		NA	NA
Pentachlorophenol	NA	1 U	NA		NA	NA	1 U		NA	NA
Phenanthrene	NA	10 U	NA		NA	NA	10 U		NA	NA
Phenol	NA	10 U	NA		NA	NA	10 U		NA	NA
Pyrene	NA	10 U	NA		NA	NA	10 U		NA	NA
Pesticides/PCBs, ug/L										
4,4'-DDD	NA	0.1 UJ	NA		NA	NA	0.1 UJ		NA	NA
4,4'-DDE	NA	0.1 UJ	NA		NA	NA	0.1 UJ		NA	NA
4,4'-DDT	NA	0.1 UJ	NA		NA	NA	0.1 UJ		NA	NA
Aldrin	NA	0.05 UJ	NA		NA	NA	0.05 UJ		NA	NA
alpha-BHC	NA	0.05 UJ	NA		NA	NA	0.05 UJ		NA	NA
alpha-Chlordane	NA	0.05 UJ	NA		NA	NA	0.05 UJ		NA	NA
Aroclor-1016	NA	0.5 UJ	NA		NA	NA	0.5 UJ		NA	NA
Aroclor-1221	NA	0.5 UJ	NA		NA	NA	0.5 UJ		NA	NA
Aroclor-1232	NA	0.5 UJ	NA		NA	NA	0.5 UJ		NA	NA
Aroclor-1242	NA	0.5 UJ	NA		NA	NA	0.5 UJ		NA	NA
Aroclor-1248	NA	0.5 UJ	NA		NA	NA	0.5 UJ		NA	NA
Aroclor-1254	NA	0.5 UJ	NA		NA	NA	0.5 UJ		NA	NA
Aroclor-1260	NA	0.5 UJ	NA		NA	NA	0.5 UJ		NA	NA
beta-BHC	NA	0.05 UJ	NA		NA	NA	0.05 UJ		NA	NA
delta-BHC	NA	0.05 UJ	NA		NA	NA	0.05 UJ		NA	NA
Dieldrin	NA	0.1 UJ	NA		NA	NA	0.1 UJ		NA	NA
Endosulfan I	NA	0.05 UJ	NA		NA	NA	0.05 UJ		NA	NA
Endosulfan II	NA	0.1 UJ	NA		NA	NA	0.1 UJ		NA	NA
Endosulfan sulfate	NA	0.1 UJ	NA		NA	NA	0.1 UJ		NA	NA
Endrin	NA	0.1 UJ	NA		NA	NA	0.1 UJ		NA	NA
Endrin aldehyde	NA	0.1 UJ	NA		NA	NA	0.1 UJ		NA	NA
Endrin ketone	NA	0.1 UJ	NA		NA	NA	0.1 UJ		NA	NA

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Table C-3. Summary of Groundwater Analytical Results
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Naval Training Center, Orlando
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Sample ID	02G00101	02G00102	02G00102	02G00103	02G00201	02G00201D	02G00202	02G00203	02G00301	02G00401
Lab ID	G5782001	G7818003	C127447002	A8L090188007	G5782002	G5782003	G7818002	A8L090188008	G5782004	G5782005
Sampling Date	14-Sep-94	14-Jun-95	8-Aug-97	8-Dec-98	14-Sep-94	14-Sep-94	14-Jun-95	8-Dec-98	14-Sep-94	14-Sep-94
gamma-BHC (Lindane)	NA	0.05 UJ	NA		NA	NA	0.05 UJ		NA	NA
gamma-Chlordane	NA	0.05 UJ	NA		NA	NA	0.05 UJ		NA	NA
Heptachlor	NA	0.05 UJ	NA		NA	NA	0.05 UJ		NA	NA
Heptachlor epoxide	NA	0.05 UJ	NA		NA	NA	0.05 UJ		NA	NA
Methoxychlor	NA	0.5 UJ	NA		NA	NA	0.5 UJ		NA	NA
Toxaphene	NA	5 UJ	NA		NA	NA	5 UJ		NA	NA
Inorganics, ug/L										
Aluminum	NA	1590	NA		NA	NA	78.2 B		NA	NA
Antimony	NA	2.5 U	NA		NA	NA	2.6 B		NA	NA
Arsenic	NA	1.9 U	NA		NA	NA	1.9 U		NA	NA
Barium	NA	18.3 B	NA		NA	NA	0.6 U		NA	NA
Beryllium	NA	0.1 UJ	NA		NA	NA	0.1 UJ		NA	NA
Cadmium	NA	3.1 U	NA		NA	NA	3.1 U		NA	NA
Calcium	NA	21000	NA		NA	NA	37300		NA	NA
Chromium	NA	3.2 B	NA		NA	NA	3.1 U		NA	NA
Cobalt	NA	2.9 U	NA		NA	NA	2.9 U		NA	NA
Copper	NA	9.1 B	NA		NA	NA	1.4 U		NA	NA
Iron	NA	267	NA		NA	NA	13.8 B		NA	NA
Lead	NA	1.5 U	NA		NA	NA	1.5 U		NA	NA
Magnesium	NA	358 B	NA		NA	NA	856 B		NA	NA
Manganese	NA	18.5	NA		NA	NA	0.7 U		NA	NA
Mercury	NA	0.12 U	NA		NA	NA	0.12 U		NA	NA
Nickel	NA	14.2 U	NA		NA	NA	14.2 U		NA	NA
Potassium	NA	2390 B	NA		NA	NA	904 B		NA	NA
Selenium	NA	2.3 UJ	NA		NA	NA	2.3 UJ		NA	NA
Silver	NA	2.6 U	NA		NA	NA	2.6 U		NA	NA
Sodium	NA	1660 B	NA		NA	NA	4040 B		NA	NA
Thallium	NA	1.8 U	NA		NA	NA	1.8 U		NA	NA
Vanadium	NA	2.5 U	NA		NA	NA	2.5 B		NA	NA
Zinc	NA	5.2 U	NA		NA	NA	2 U		NA	NA
Radiological, pCi/L										
Gross Alpha	NA	4.4	NA		NA	NA	1.1		NA	NA
Gross Beta	NA	5.3	NA		NA	NA	3 U		NA	NA

Appendix C
Table C-3. Summary of Groundwater Analytical Results
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Naval Training Center, Orlando
Orlando, FL

Sample ID	02G00402		02G00403		02G00501		02G00502		02G00503		02G00503		02G00601		02G00602		02G00603		02G00701	
Lab ID	C127447003		A8L090188001		G5782006		G7818001		C127434003		A8L090188004		G5781002		C127435003		A8K210147004		G7063009	
Sampling Date	8-Aug-97		7-Dec-98		14-Sep-94		14-Jun-95		7-Aug-97		7-Dec-98		14-Sep-94		7-Aug-97		19-Nov-98		10-Mar-95	
Volatile Organics, ug/L																				
1,1,1,2-Tetrachloroethane	0.5	U	5	U	NQ		NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ	
1,1,1-Trichloroethane	0.5	U	5	U	1	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U
1,1,2,2-Tetrachloroethane	0.5	U	5	U	1	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U
1,1,2-Trichloroethane	0.5	U	5	U	1	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U
1,1-Dichloroethane	0.5	U	5	U	1	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U
1,1-Dichloroethene	0.5	U	5	U	1	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U
1,1-Dichloropropene	0.5	U	5	U	NQ		NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ	
1,2,3-Trichlorobenzene	0.5	U	5	U	NQ		NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ	
1,2,4-Trichlorobenzene	0.5	U			NA		10	U	0.5	U			10	U	0.5	U			10	U
1,2,3-Trichloropropane	0.5	U	5	U	NQ		NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ	
1,2,4-Trichlorobenzene			5	U							5	U					5	U		
1,2,4-Trimethylbenzene	0.5	U	5	U	NQ		NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ	
1,2-Dibromo-3-chloropropane	0.5	U	10	U	1	U	1	U	0.5	U	10	U	1	U	0.5	U	10	U	1	U
1,2-Dibromoethane	0.5	U	5	U	1	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U
1,2-Dichlorobenzene	0.5	U			1	U	1	U	0.5	U			1	U	0.5	U			1	U
1,3-Dichlorobenzene	0.5	U			1	U	1	U	0.5	U			1	U	0.5	U			1	U
1,4-Dichlorobenzene	0.5	U			1	U	1	U	0.5	U			1	U	0.5	U			1	U
1,2-Dichloroethane	0.5	U	5	U	1	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U
1,2-Dichloropropane	0.5	U	5	U	1	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U
1,3,5-Trimethylbenzene	0.5	U	5	U	NQ		NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ	
1,3-Dichloropropane	0.5	U	5	U	NQ		NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ	
2,2-Dichloropropane	0.5	U	5	U	NQ		NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ	
2-Butanone	NQ				1	J	5	UR	NQ				5	UR	NQ				5	U
2-Chlorotoluene	0.5	U	5	U	NQ		NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ	
2-Hexanone	NQ				5	U	5	U	NQ				5	UR	NQ				5	U
4-Chlorotoluene	0.5	U	5	U	NQ		NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ	
4-Isopropyltoluene	0.5	U			NQ		NQ		0.5	U			NQ		0.5	U			NQ	
4-Methyl-2-pentanone	NQ				5	U	5	U	NQ				5	U	NQ				5	U
Acetone	NQ				5	U	5	UR	NQ				5	UR	NQ				5	U
Benzene	0.5	U	5	U	1	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U
Bromobenzene	0.5	U	5	U	NQ		NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ	
Bromochloromethane	0.5	U	5	U	1	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U
Bromodichloromethane	0.5	U	5	U	1	U	0.3	J	0.5	U	5	U	1	U	0.5	U	5	U	1	U
Bromoform	0.5	U	5	U	1	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U
Bromomethane	0.5	U	10	U	1	U	1	U	0.5	U	10	U	1	U	0.5	U	10	U	1	U
Carbon disulfide	NQ				1	U	1	U	NQ				1	U	NQ				1	U
Carbon tetrachloride	0.5	U	5	U	1	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U
Chlorobenzene	0.5	U	5	U	1	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U
Chlorodibromomethane			5	U							5	U					5	U		

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Sample ID	02G00402		02G00403		02G00501		02G00502		02G00503		02G00503		02G00601		02G00602		02G00603		02G00701	
Lab ID	C127447003		A8L090188001		G5782006		G7818001		C127434003		A8L090188004		G5781002		C127435003		A8K210147004		G7063009	
Sampling Date	8-Aug-97		7-Dec-98		14-Sep-94		14-Jun-95		7-Aug-97		7-Dec-98		14-Sep-94		7-Aug-97		19-Nov-98		10-Mar-95	
Chloroethane	0.5	U	10	U	1	U	1	U	0.5	U	10	U	1	U	0.5	U	10	U	1	U
Chloroform	0.5	U	5	U	1	U	5		0.5	U	5	U	1	U	0.5	U	5	U	1	U
Chloromethane	0.5	U	10	U	1	U	1	U	0.5	U	10	U	1	U	0.5	U	10	U	1	U
cis-1,2-Dichloroethene	0.5	U	2.5	U	1	U	1	U	0.5	U	2.5	U	1	U	0.5	U	2.5	U	1	U
cis-1,3-Dichloropropene	0.5	U	5	U	1	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U
Dibromochloromethane	0.5	U			1	U	1	U	0.5	U			1	U	0.5	U			1	U
Dibromomethane	0.5	U	5	U	NQ		NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ	
Dichlorodifluoromethane	0.5	U	10	U	NQ		NQ		0.5	U	10	U	NQ		0.5	U	10	U	NQ	
Ethylbenzene	0.5	U	5	U	1	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U
Hexachlorobutadiene	0.5	U	5	U	NA		10	U	0.5	U	5	U	10	U	0.5	U	5	U	10	U
Isopropylbenzene	0.5	U	5	U	NQ		NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ	
m-Dichlorobenzene			5	U							5	U					5	U		
Methylene chloride	0.5	U	0.73	J	0.4	UJ	2	U	0.5	U	0.65	J	1	U	0.5	U	3.7	J	2	U
Naphthalene	0.5	U	5	U	NA		10	U	0.5	U	5	U	10	U	0.5	U	5	U	10	U
n-Butylbenzene	0.5	U	5	U	NQ		NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ	
n-Propylbenzene	0.5	U	5	U	NQ		NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ	
o-Dichlorobenzene			5	U							5	U					5	U		
p-Dichlorobenzene			5	U							5	U					5	U		
p-Isopropyltoluene			5	U							5	U					5	U		
sec-Butylbenzene	0.5	U	5	U	NQ		NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ	
Styrene	0.5	U	5	U	1	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U
tert-Butylbenzene	0.5	U	5	U	NQ		NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ	
Tetrachloroethene	0.5	U	5	U	1	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U
Toluene	0.5	U	5	U	1	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U
trans-1,2-Dichloroethene	0.5	U	2.5	U	1	U	1	U	0.5	U	2.5	U	1	U	0.5	U	2.5	U	1	U
trans-1,3-Dichloropropene	0.5	U	5	U	1	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U
Trichloroethene	0.5	U	5	U	1	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U
Trichlorofluoromethane	0.5	U	10	U	NQ		NQ		0.5	U	10	U	NQ		0.5	U	10	U	NQ	
Vinyl chloride	0.5	U	10	U	1	U	1	U	0.5	U	10	U	1	U	0.5	U	10	U	1	U
m/p-Xylene	0.5	U	2.5	U	NQ		NQ		0.5	U	2.5	U	NQ		0.5	U	2.5	U	NQ	
o-Xylene	0.5	U	2.5	U	NQ		NQ		0.5	U	2.5	U	NQ		0.5	U	2.5	U	NQ	
Xylene (total)		*			1	U	1	U		*			1	U		*			0.2	J
Light gases, ug/L																				
Methane			5.6								7.9						19			
Ethane			0.5	U							0.5	U					0.5	U		
Ethene			0.5	U							0.5	U					0.5	U		
General Chemistry, mg/L																				
Total Organic Carbon			5								18						5			
Semivolatile Organics, ug/L																				
2,2'-oxybis(1-Chloropropane)	NA				NA		10	U	NA				10	U	NA				10	U

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Sample ID	02G00402	02G00403	02G00501	02G00502	02G00503	02G00503	02G00601	02G00602	02G00603	02G00701
Lab ID	C127447003	A8L090188001	G5782006	G7818001	C127434003	A8L090188004	G5781002	C127435003	A8K210147004	G7063009
Sampling Date	8-Aug-97	7-Dec-98	14-Sep-94	14-Jun-95	7-Aug-97	7-Dec-98	14-Sep-94	7-Aug-97	19-Nov-98	10-Mar-95
2,4,5-Trichlorophenol	NA		NA	25 U	NA		25 U	NA		25 U
2,4,6-Trichlorophenol	NA		NA	10 U	NA		10 U	NA		10 U
2,4-Dichlorophenol	NA		NA	10 U	NA		10 U	NA		10 U
2,4-Dimethylphenol	NA		NA	10 U	NA		10 U	NA		10 U
2,4-Dinitrophenol	NA		NA	25 U	NA		25 U	NA		25 U
2,4-Dinitrotoluene	NA		NA	10 U	NA		10 U	NA		10 U
2,6-Dinitrotoluene	NA		NA	10 U	NA		10 U	NA		10 U
2-Chloronaphthalene	NA		NA	10 U	NA		10 U	NA		10 U
2-Chlorophenol	NA		NA	10 U	NA		10 U	NA		10 U
2-Methylnaphthalene	NA		NA	10 U	NA		10 U	NA		10 U
2-Methylphenol	NA		NA	10 U	NA		10 U	NA		10 U
2-Nitroaniline	NA		NA	25 U	NA		25 U	NA		25 U
2-Nitrophenol	NA		NA	10 U	NA		10 U	NA		10 U
3,3'-Dichlorobenzidine	NA		NA	10 U	NA		10 U	NA		10 U
3-Nitroaniline	NA		NA	25 U	NA		25 U	NA		25 U
4,6-Dinitro-2-methylphenol	NA		NA	25 U	NA		25 U	NA		25 U
4-Bromophenyl-phenylether	NA		NA	10 U	NA		10 U	NA		10 U
4-Chloro-3-methylphenol	NA		NA	10 U	NA		10 U	NA		10 U
4-Chloroaniline	NA		NA	10 U	NA		10 U	NA		10 U
4-Chlorophenyl-phenylether	NA		NA	10 U	NA		10 U	NA		10 U
4-Methylphenol	NA		NA	10 U	NA		10 U	NA		10 U
4-Nitroaniline	NA		NA	25 U	NA		25 U	NA		25 U
4-Nitrophenol	NA		NA	25 U	NA		25 U	NA		25 U
Acenaphthene	NA		NA	10 U	NA		10 U	NA		10 U
Acenaphthylene	NA		NA	10 U	NA		10 U	NA		10 U
Anthracene	NA		NA	10 U	NA		10 U	NA		10 U
Benzo(a)anthracene	NA		NA	10 U	NA		10 U	NA		10 U
Benzo(a)pyrene	NA		NA	0.2 U	NA		0.1 U	NA		0.1 U
Benzo(b)fluoranthene	NA		NA	10 U	NA		10 U	NA		10 U
Benzo(g,h,i)perylene	NA		NA	10 U	NA		10 U	NA		10 U
Benzo(k)fluoranthene	NA		NA	10 U	NA		10 U	NA		10 U
bis(2-Chloroethoxy)methane	NA		NA	10 U	NA		10 U	NA		10 U
bis(2-Chloroethyl)ether	NA		NA	10 U	NA		10 U	NA		10 U
bis(2-Ethylhexyl)phthalate	NA		NA	1 U	NA		11 U	NA		1 U
Butylbenzylphthalate	NA		NA	10 U	NA		10 U	NA		10 U
Carbazole	NA		NA	10 U	NA		10 U	NA		10 U
Chrysene	NA		NA	10 U	NA		10 U	NA		10 U
Di-n-butylphthalate	NA		NA	10 U	NA		10 U	NA		10 U
Di-n-octylphthalate	NA		NA	10 U	NA		10 U	NA		10 U
Dibenz(a,h)anthracene	NA		NA	10 U	NA		10 U	NA		10 U

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Sample ID	02G00402	02G00403	02G00501	02G00502	02G00503	02G00503	02G00601	02G00602	02G00603	02G00701
Lab ID	C127447003	A8L090188001	G5782006	G7818001	C127434003	A8L090188004	G5781002	C127435003	A8K210147004	G7063009
Sampling Date	8-Aug-97	7-Dec-98	14-Sep-94	14-Jun-95	7-Aug-97	7-Dec-98	14-Sep-94	7-Aug-97	19-Nov-98	10-Mar-95
Dibenzofuran	NA		NA	10 U	NA		10 U	NA		10 U
Diethylphthalate	NA		NA	10 U	NA		10 U	NA		10 U
Dimethylphthalate	NA		NA	10 U	NA		10 U	NA		10 U
Fluoranthene	NA		NA	10 U	NA		10 U	NA		10 U
Fluorene	NA		NA	10 U	NA		10 U	NA		10 U
Hexachlorobenzene	NA		NA	1 U	NA		11 U	NA		1 U
Hexachlorocyclopentadiene	NA		NA	10 U	NA		10 UJ	NA		10 U
Hexachloroethane	NA		NA	10 U	NA		10 U	NA		10 U
Indeno(1,2,3-cd)pyrene	NA		NA	10 U	NA		10 U	NA		10 U
Isophorone	NA		NA	10 U	NA		10 U	NA		10 U
N-Nitroso-di-n-propylamine	NA		NA	10 U	NA		10 U	NA		10 U
N-Nitrosodiphenylamine (1)	NA		NA	10 U	NA		10 U	NA		10 U
Nitrobenzene	NA		NA	10 U	NA		10 U	NA		10 U
Pentachlorophenol	NA		NA	1 U	NA		26 U	NA		1 U
Phenanthrene	NA		NA	10 U	NA		10 U	NA		10 U
Phenol	NA		NA	10 U	NA		10 U	NA		10 U
Pyrene	NA		NA	10 U	NA		10 U	NA		10 U
Pesticides/PCBs, ug/L										
4,4'-DDD	NA		NA	0.1 UJ	NA		0.1 U	NA		0.1 U
4,4'-DDE	NA		NA	0.1 UJ	NA		0.1 U	NA		0.1 U
4,4'-DDT	NA		NA	0.1 UJ	NA		0.1 U	NA		0.1 U
Aldrin	NA		NA	0.05 UJ	NA		0.05 U	NA		0.05 U
alpha-BHC	NA		NA	0.05 UJ	NA		0.05 U	NA		0.05 U
alpha-Chlordane	NA		NA	0.05 UJ	NA		0.05 U	NA		0.05 U
Aroclor-1016	NA		NA	0.5 UJ	NA		0.5 U	NA		0.5 U
Aroclor-1221	NA		NA	0.5 UJ	NA		0.5 U	NA		0.5 U
Aroclor-1232	NA		NA	0.5 UJ	NA		0.5 U	NA		0.5 U
Aroclor-1242	NA		NA	0.5 UJ	NA		0.5 U	NA		0.5 U
Aroclor-1248	NA		NA	0.5 UJ	NA		0.5 U	NA		0.5 U
Aroclor-1254	NA		NA	0.5 UJ	NA		0.5 U	NA		0.5 U
Aroclor-1260	NA		NA	0.5 UJ	NA		0.5 U	NA		0.5 U
beta-BHC	NA		NA	0.05 UJ	NA		0.05 U	NA		0.05 U
delta-BHC	NA		NA	0.05 UJ	NA		0.05 U	NA		0.05 U
Dieldrin	NA		NA	0.1 UJ	NA		0.1 U	NA		0.1 U
Endosulfan I	NA		NA	0.05 UJ	NA		0.05 U	NA		0.05 U
Endosulfan II	NA		NA	0.1 UJ	NA		0.1 U	NA		0.1 U
Endosulfan sulfate	NA		NA	0.1 UJ	NA		0.1 U	NA		0.1 U
Endrin	NA		NA	0.1 UJ	NA		0.1 U	NA		0.1 U
Endrin aldehyde	NA		NA	0.1 UJ	NA		0.1 U	NA		0.1 U
Endrin ketone	NA		NA	0.1 UJ	NA		0.1 U	NA		0.1 U

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Sample ID	02G00402		02G00403		02G00501		02G00502		02G00503		02G00503		02G00601		02G00602		02G00603		02G00701	
Lab ID	C127447003		A8L090188001		G5782006		G7818001		C127434003		A8L090188004		G5781002		C127435003		A8K210147004		G7063009	
Sampling Date	8-Aug-97		7-Dec-98		14-Sep-94		14-Jun-95		7-Aug-97		7-Dec-98		14-Sep-94		7-Aug-97		19-Nov-98		10-Mar-95	
gamma-BHC (Lindane)	NA				NA		0.05	UJ	NA				0.05	U	NA				0.05	U
gamma-Chlordane	NA				NA		0.05	UJ	NA				0.05	U	NA				0.05	U
Heptachlor	NA				NA		0.05	UJ	NA				0.05	U	NA				0.05	U
Heptachlor epoxide	NA				NA		0.05	UJ	NA				0.05	U	NA				0.05	U
Methoxychlor	NA				NA		0.5	UJ	NA				0.5	U	NA				0.5	U
Toxaphene	NA				NA		5	UJ	NA				5	U	NA				5	U
Inorganics, ug/L																				
Aluminum	NA				NA		1070		NA				5500		NA				466	
Antimony	NA				NA		7.3	B	NA				1.2	U	NA				2.5	U
Arsenic	NA				NA		2.5	B	NA				1.9	UJ	NA				9.4	B
Barium	NA				NA		9.7	B	NA				8.2	B	NA				36.6	B
Beryllium	NA				NA		0.1	UJ	NA				0.21	J	NA				0.2	U
Cadmium	NA				NA		3.1	U	NA				2.9	U	NA				3.1	U
Calcium	NA				NA		33100		NA				35700		NA				14700	
Chromium	NA				NA		3.1	U	NA				11.9		NA				2.5	U
Cobalt	NA				NA		2.9	U	NA				3	U	NA				2	U
Copper	NA				NA		1.4	U	NA				6.3	B	NA				2.2	UJ
Iron	NA				NA		90.8	B	NA				159		NA				1450	
Lead	NA				NA		1.5	U	NA				3.7		NA				1.5	U
Magnesium	NA				NA		1620	B	NA				545	B	NA				3430	B
Manganese	NA				NA		9.4	B	NA				1.5	B	NA				140	
Mercury	NA				NA		0.12	U	NA				0.18	B	NA				0.12	U
Nickel	NA				NA		14.2	U	NA				9.2	U	NA				9.6	U
Potassium	NA				NA		1480	B	NA				2620	B	NA				884	B
Selenium	NA				NA		2.3	U	NA				2.4	J	NA				2.3	U
Silver	NA				NA		2.6	U	NA				2.6	U	NA				2.7	U
Sodium	NA				NA		5940		NA				2750	B	NA				8610	
Thallium	NA				NA		1.8	U	NA				1.3	U	NA				1.8	UJ
Vanadium	NA				NA		11.7	B	NA				23.6	B	NA				2.1	U
Zinc	NA				NA		49.4		NA				4.4	U	NA				8.4	B
Radiological, pCi/L																				
Gross Alpha	NA				NA		4.6		NA				NA		NA				4	
Gross Beta	NA				NA		6		NA				NA		NA				4.3	

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Table C-3. Summary of Groundwater Analytical Results
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Naval Training Center, Orlando
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Sample ID	02G00703		02G00801		02G00802		02G00803		02G00901		02G00902		02G00903		02G01001		02G01002		02G01003	
Lab ID	A8L150167002		G6991001		C127484001		A8K230141005		G6991002		C127435001		A8K230141004		G6991003		C127504001		A8K230141001	
Sampling Date	11-Dec-98		1-Mar-95		11-Aug-97		20-Nov-98		1-Mar-95		7-Aug-97		20-Nov-98		1-Mar-95		12-Aug-97		20-Nov-98	
Volatile Organics, ug/L																				
1,1,1,2-Tetrachloroethane	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U
1,1,1-Trichloroethane	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U
1,1,2,2-Tetrachloroethane	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U
1,1,2-Trichloroethane	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U
1,1-Dichloroethane	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U
1,1-Dichloroethene	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U
1,1-Dichloropropene	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U
1,2,3-Trichlorobenzene	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U
1,2,4-Trichlorobenzene			10	U	0.5	U			10	U	0.5	U			10	U	0.5	U		
1,2,3-Trichloropropane	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U
1,2,4-Trichlorobenzene	5	U					5	U					5	U					5	U
1,2,4-Trimethylbenzene	5	U	NQ		1.9		1.8	J	NQ		0.5	U	5	U	NQ		0.5	U	5	U
1,2-Dibromo-3-chloropropane	10	U	1	U	0.5	U	10	U	1	U	0.5	U	10	U	1	U	0.5	U	10	U
1,2-Dibromoethane	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U
1,2-Dichlorobenzene			1	U	0.5	U			1	U	0.5	U			1	U	0.5	U		
1,3-Dichlorobenzene			1	U	0.5	U			1	U	0.5	U			1	U	0.5	U		
1,4-Dichlorobenzene			1	U	0.5	U			1	U	0.5	U			1	U	0.5	U		
1,2-Dichloroethane	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U
1,2-Dichloropropane	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U
1,3,5-Trimethylbenzene	5	U	NQ		0.8		5	U	NQ		0.5	U	5	U	NQ		0.73		5	U
1,3-Dichloropropane	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U
2,2-Dichloropropane	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U
2-Butanone			5	U	NQ				5	U	NQ				5	U	NQ			
2-Chlorotoluene	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U
2-Hexanone			5	U	NQ				5	U	NQ				5	U	NQ			
4-Chlorotoluene	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U
4-Isopropyltoluene			NQ		0.5	U			NQ		0.5	U			NQ		0.5	U		
4-Methyl-2-pentanone			5	U	NQ				5	U	NQ				5	U	NQ			
Acetone			5	U	NQ				5	U	NQ				5	U	NQ			
Benzene	5	U	21	D	35		23		1	U	0.5	U	5	U	32	D	7.6		5	U
Bromobenzene	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U
Bromochloromethane	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U
Bromodichloromethane	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U
Bromoform	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U
Bromomethane	10	U	1	U	0.5	U	10	U	1	U	0.5	U	10	U	1	U	0.5	U	10	U
Carbon disulfide			1	U	NQ				1	U	NQ				1	U	NQ			
Carbon tetrachloride	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U
Chlorobenzene	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U
Chlorodibromomethane	5	U					5	U					5	U					5	U

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Sample ID	02G00703		02G00801		02G00802		02G00803		02G00901		02G00902		02G00903		02G01001		02G01002		02G01003	
Lab ID	A8L150167002		G6991001		C127484001		A8K230141005		G6991002		C127435001		A8K230141004		G6991003		C127504001		A8K230141001	
Sampling Date	11-Dec-98		1-Mar-95		11-Aug-97		20-Nov-98		1-Mar-95		7-Aug-97		20-Nov-98		1-Mar-95		12-Aug-97		20-Nov-98	
Chloroethane	10	U	1	U	0.5	U	10	U	1	U	0.5	U	10	U	1	U	0.5	U	10	U
Chloroform	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U
Chloromethane	10	U	1	U	0.5	U	10	U	1	U	0.5	U	10	U	1	U	0.5	U	10	U
cis-1,2-Dichloroethene	2.5	U	1		0.83		0.65	J	1	U	0.5	U	2.5	U	1		0.5	U	2.5	U
cis-1,3-Dichloropropene	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U
Dibromochloromethane			1	U	0.5	U			1	U	0.5	U			1	U	0.5	U		
Dibromomethane	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U
Dichlorodifluoromethane	10	U	NQ		0.5	U	10	U	NQ		0.5	U	10	U	NQ		0.5	U	10	U
Ethylbenzene	5	U	0.6	J	0.5	U	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U
Hexachlorobutadiene	5	U	10	U	0.5	U	5	U	10	U	0.5	U	5	U	10	U	0.5	U	5	U
Isopropylbenzene	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U
m-Dichlorobenzene	5	U					5	U					5	U					5	U
Methylene chloride	1.5	J	2	U	0.5	U	5	U	2	U	0.5	U	5	U	2	U	0.5	U	0.5	J
Naphthalene	5	U	10	U	0.5	U	5	U	10	U	0.5	U	5	U	10	U	0.5	U	5	U
n-Butylbenzene	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U
n-Propylbenzene	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U
o-Dichlorobenzene	5	U					5	U					5	U					5	U
p-Dichlorobenzene	5	U					5	U					5	U					5	U
p-Isopropyltoluene	5	U					5	U					5	U					5	U
sec-Butylbenzene	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U
Styrene	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U
tert-Butylbenzene	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U	NQ		0.5	U	5	U
Tetrachloroethene	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U
Toluene	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U
trans-1,2-Dichloroethene	2.5	U	1	U	0.5	U	2.5	U	1	U	0.5	U	2.5	U	1	U	0.5	U	2.5	U
trans-1,3-Dichloropropene	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U
Trichloroethene	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U	1	U	0.5	U	5	U
Trichlorofluoromethane	10	U	NQ		0.5	U	10	U	NQ		0.5	U	10	U	NQ		0.5	U	10	U
Vinyl chloride	10	U	1	U	0.5	U	10	U	1	U	0.5	U	10	U	1	U	0.5	U	10	U
m/p-Xylene	2.5	U	NQ		0.5	U	2.5	U	NQ		0.5	U	2.5	U	NQ		0.5	U	2.5	U
o-Xylene	2.5	U	NQ		0.5	U	2.5	U	NQ		0.5	U	2.5	U	NQ		0.5	U	2.5	U
Xylene (total)			1	U		*			1	U		*			1	U		*		
Light gases, ug/L																				
Methane	20						270	D					3.8						1.2	
Ethane	0.5	U					0.61						0.5	U					0.5	U
Ethene	0.5	U					0.5	U					0.5	U					0.5	U
General Chemistry, mg/L																				
Total Organic Carbon	2						5						16						7	
Semivolatile Organics, ug/L																				
2,2'-oxybis(1-Chloropropane)			10	U	NA				10	U	NA				10	U	NA			

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Sample ID	02G00703		02G00801		02G00802		02G00803		02G00901		02G00902		02G00903		02G01001		02G01002		02G01003	
Lab ID	A8L150167002		G6991001		C127484001		A8K230141005		G6991002		C127435001		A8K230141004		G6991003		C127504001		A8K230141001	
Sampling Date	11-Dec-98		1-Mar-95		11-Aug-97		20-Nov-98		1-Mar-95		7-Aug-97		20-Nov-98		1-Mar-95		12-Aug-97		20-Nov-98	
2,4,5-Trichlorophenol			25	U	NA				25	U	NA				25	U	NA			
2,4,6-Trichlorophenol			10	U	NA				10	U	NA				10	U	NA			
2,4-Dichlorophenol			10	U	NA				10	U	NA				10	U	NA			
2,4-Dimethylphenol			10	U	NA				10	U	NA				10	U	NA			
2,4-Dinitrophenol			25	U	NA				25	U	NA				25	U	NA			
2,4-Dinitrotoluene			10	U	NA				10	U	NA				10	U	NA			
2,6-Dinitrotoluene			10	U	NA				10	U	NA				10	U	NA			
2-Chloronaphthalene			10	U	NA				10	U	NA				10	U	NA			
2-Chlorophenol			10	U	NA				10	U	NA				10	U	NA			
2-Methylnaphthalene			10	U	NA				10	U	NA				10	U	NA			
2-Methylphenol			10	U	NA				10	U	NA				10	U	NA			
2-Nitroaniline			25	U	NA				25	U	NA				25	U	NA			
2-Nitrophenol			10	U	NA				10	U	NA				10	U	NA			
3,3'-Dichlorobenzidine			10	U	NA				10	U	NA				10	U	NA			
3-Nitroaniline			25	U	NA				25	U	NA				25	U	NA			
4,6-Dinitro-2-methylphenol			25	U	NA				25	U	NA				25	U	NA			
4-Bromophenyl-phenylether			10	U	NA				10	U	NA				10	U	NA			
4-Chloro-3-methylphenol			10	U	NA				10	U	NA				10	U	NA			
4-Chloroaniline			10	U	NA				10	U	NA				10	U	NA			
4-Chlorophenyl-phenylether			10	U	NA				10	U	NA				10	U	NA			
4-Methylphenol			10	U	NA				10	U	NA				10	U	NA			
4-Nitroaniline			25	U	NA				25	U	NA				25	U	NA			
4-Nitrophenol			25	U	NA				25	U	NA				25	U	NA			
Acenaphthene			10	U	NA				10	U	NA				10	U	NA			
Acenaphthylene			10	U	NA				10	U	NA				10	U	NA			
Anthracene			10	U	NA				10	U	NA				10	U	NA			
Benzo(a)anthracene			10	U	NA				10	U	NA				10	U	NA			
Benzo(a)pyrene			0.02	U	NA				0.02	U	NA				0.02	U	NA			
Benzo(b)fluoranthene			10	U	NA				10	U	NA				10	U	NA			
Benzo(g,h,i)perylene			10	U	NA				10	U	NA				10	U	NA			
Benzo(k)fluoranthene			10	U	NA				10	U	NA				10	U	NA			
bis(2-Chloroethoxy)methane			10	U	NA				10	U	NA				10	U	NA			
bis(2-Chloroethyl)ether			10	U	NA				10	U	NA				10	U	NA			
bis(2-Ethylhexyl)phthalate			1	U	NA				1	U	NA				4	U	NA			
Butylbenzylphthalate			10	U	NA				10	U	NA				10	U	NA			
Carbazole			10	U	NA				10	U	NA				10	U	NA			
Chrysene			10	U	NA				10	U	NA				10	U	NA			
Di-n-butylphthalate			10	U	NA				10	U	NA				10	U	NA			
Di-n-octylphthalate			10	U	NA				10	U	NA				10	U	NA			
Dibenz(a,h)anthracene			10	U	NA				10	U	NA				10	U	NA			

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Sample ID	02G00703	02G00801	02G00802	02G00803	02G00901	02G00902	02G00903	02G01001	02G01002	02G01003
Lab ID	A8L150167002	G6991001	C127484001	A8K230141005	G6991002	C127435001	A8K230141004	G6991003	C127504001	A8K230141001
Sampling Date	11-Dec-98	1-Mar-95	11-Aug-97	20-Nov-98	1-Mar-95	7-Aug-97	20-Nov-98	1-Mar-95	12-Aug-97	20-Nov-98
Dibenzofuran		10 U	NA		10 U	NA		10 U	NA	
Diethylphthalate		10 U	NA		10 U	NA		10 U	NA	
Dimethylphthalate		10 U	NA		10 U	NA		10 U	NA	
Fluoranthene		10 U	NA		10 U	NA		10 U	NA	
Fluorene		10 U	NA		10 U	NA		10 U	NA	
Hexachlorobenzene		1 U	NA		1 U	NA		1 U	NA	
Hexachlorocyclopentadiene		10 U	NA		10 U	NA		10 U	NA	
Hexachloroethane		10 U	NA		10 U	NA		10 U	NA	
Indeno(1,2,3-cd)pyrene		10 U	NA		10 U	NA		10 U	NA	
Isophorone		10 U	NA		10 U	NA		10 U	NA	
N-Nitroso-di-n-propylamine		10 U	NA		10 U	NA		10 U	NA	
N-Nitrosodiphenylamine (1)		10 U	NA		10 U	NA		10 U	NA	
Nitrobenzene		10 U	NA		10 U	NA		10 U	NA	
Pentachlorophenol		1 U	NA		1 U	NA		1 U	NA	
Phenanthrene		10 U	NA		10 U	NA		10 U	NA	
Phenol		2 J	NA		10 U	NA		7 J	NA	
Pyrene		10 U	NA		10 U	NA		10 U	NA	
Pesticides/PCBs, ug/L										
4,4'-DDD		0.1 U	NA		0.1 U	NA		0.1 U	NA	
4,4'-DDE		0.1 U	NA		0.1 U	NA		0.1 U	NA	
4,4'-DDT		0.1 U	NA		0.1 U	NA		0.1 U	NA	
Aldrin		0.05 U	NA		0.05 U	NA		0.05 U	NA	
alpha-BHC		0.05 U	NA		0.05 U	NA		0.05 U	NA	
alpha-Chlordane		0.05 U	NA		0.05 U	NA		0.05 U	NA	
Aroclor-1016		0.5 U	NA		0.5 U	NA		0.5 U	NA	
Aroclor-1221		0.5 U	NA		0.5 U	NA		0.5 U	NA	
Aroclor-1232		0.5 U	NA		0.5 U	NA		0.5 U	NA	
Aroclor-1242		0.5 U	NA		0.5 U	NA		0.5 U	NA	
Aroclor-1248		0.5 U	NA		0.5 U	NA		0.5 U	NA	
Aroclor-1254		0.5 U	NA		0.5 U	NA		0.5 U	NA	
Aroclor-1260		0.5 U	NA		0.5 U	NA		0.5 U	NA	
beta-BHC		0.05 U	NA		0.05 U	NA		0.05 U	NA	
delta-BHC		0.05 U	NA		0.05 U	NA		0.05 U	NA	
Dieldrin		0.1 U	NA		0.1 U	NA		0.1 U	NA	
Endosulfan I		0.05 U	NA		0.05 U	NA		0.05 U	NA	
Endosulfan II		0.1 U	NA		0.1 U	NA		0.1 U	NA	
Endosulfan sulfate		0.1 U	NA		0.1 U	NA		0.1 U	NA	
Endrin		0.1 U	NA		0.1 U	NA		0.1 U	NA	
Endrin aldehyde		0.1 U	NA		0.1 U	NA		0.1 U	NA	
Endrin ketone		0.1 U	NA		0.1 U	NA		0.1 U	NA	

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Sample ID	02G00703	02G00801	02G00802	02G00803	02G00901	02G00902	02G00903	02G01001	02G01002	02G01003
Lab ID	A8L150167002	G6991001	C127484001	A8K230141005	G6991002	C127435001	A8K230141004	G6991003	C127504001	A8K230141001
Sampling Date	11-Dec-98	1-Mar-95	11-Aug-97	20-Nov-98	1-Mar-95	7-Aug-97	20-Nov-98	1-Mar-95	12-Aug-97	20-Nov-98
gamma-BHC (Lindane)		0.05 U	NA		0.05 U	NA		0.05 U	NA	
gamma-Chlordane		0.05 U	NA		0.05 U	NA		0.05 U	NA	
Heptachlor		0.05 U	NA		0.05 U	NA		0.05 U	NA	
Heptachlor epoxide		0.05 U	NA		0.05 U	NA		0.05 U	NA	
Methoxychlor		0.5 U	NA		0.5 U	NA		0.5 U	NA	
Toxaphene		5 U	NA		5 U	NA		5 U	NA	
Inorganics, ug/L										
Aluminum		2930	NA		1080	NA		1460	NA	
Antimony		2.5 U	NA		3.7 J	NA		3.4 B	NA	
Arsenic		1.9 U	NA		1.9 U	NA		1.9 U	NA	
Barium		49.7 B	NA		10 B	NA		43.3 B	NA	
Beryllium		0.2 U	NA		0.2 U	NA		0.37 B	NA	
Cadmium		3.1 U	NA		3.1 U	NA		3.1 U	NA	
Calcium		4920 B	NA		38100	NA		15000	NA	
Chromium		4.4 B	NA		2.5 U	NA		2.5 B	NA	
Cobalt		2 U	NA		2 U	NA		2 U	NA	
Copper		2.2 U	NA		21.6 B	NA		2.2 UJ	NA	
Iron		2150	NA		60.4 B	NA		2030	NA	
Lead		1.5 U	NA		1.5 U	NA		1.5 U	NA	
Magnesium		5220	NA		2030 B	NA		7400	NA	
Manganese		18.2	NA		23.8	NA		21.8	NA	
Mercury		0.12 U	NA		0.19 B	NA		0.12 U	NA	
Nickel		9.6 U	NA		9.6 U	NA		9.6 U	NA	
Potassium		1300 B	NA		1190 B	NA		1840 B	NA	
Selenium		2.3 U	NA		2.3 U	NA		2.3 U	NA	
Silver		2.7 U	NA		2.7 U	NA		2.7 U	NA	
Sodium		5460	NA		2680 B	NA		7600	NA	
Thallium		1.8 UJ	NA		1.8 U	NA		1.8 UJ	NA	
Vanadium		2.1 U	NA		2.1 U	NA		3.8 B	NA	
Zinc		5.1 B	NA		2.6 B	NA		4.8 B	NA	
Radiological, pCi/L										
Gross Alpha		8	NA		2.3	NA		10.4	NA	
Gross Beta		6.4	NA		5.4	NA		7.3	NA	

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Sample ID	02G01101	02G01102	02G01103	02G01103D	02G01201	02G01202	02G01301	02G01302	02G01401	02G01401D
Lab ID	G6991004	C127447001	A8K230141002	A8K230141003	C127723003	A8K210147003	C127723004	A8L110189007	C127723001	C127723006
Sampling Date	1-Mar-95	8-Aug-97	20-Nov-98	20-Nov-98	22-Aug-97	19-Nov-98	22-Aug-97	10-Dec-98	22-Aug-97	22-Aug-97
Volatile Organics, ug/L										
1,1,1,2-Tetrachloroethane	NQ	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	1 U	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	1 U	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	1 U	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
1,1-Dichloroethane	1 U	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
1,1-Dichloroethene	1 U	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
1,1-Dichloropropene	NQ	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	NQ	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	10 U	0.5 U			0.5 U		0.5 U		0.5 U	0.5 U
1,2,3-Trichloropropane	NQ	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene			5 U	5 U		5 U		5 U		
1,2,4-Trimethylbenzene	NQ	0.5 U	5 U	5 U	0.5 U	5 U	1.2	5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	1 U	0.5 U	10 U	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U	0.5 U
1,2-Dibromoethane	1 U	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	1 U	0.5 U			0.5 U		0.5 U		0.5 U	0.5 U
1,3-Dichlorobenzene	1 U	0.5 U			0.5 U		0.5 U		0.5 U	0.5 U
1,4-Dichlorobenzene	1 U	0.5 U			0.5 U		0.5 U		0.5 U	0.5 U
1,2-Dichloroethane	1 U	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
1,2-Dichloropropane	1 U	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene	NQ	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	1.6 J	0.5 U	0.5 U
1,3-Dichloropropane	NQ	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
2,2-Dichloropropane	NQ	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
2-Butanone	5 U	NQ			NQ		NQ		NQ	NQ
2-Chlorotoluene	NQ	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
2-Hexanone	5 U	NQ			NQ		NQ		NQ	NQ
4-Chlorotoluene	NQ	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
4-Isopropyltoluene	NQ	0.5 U			0.5 U		0.5 U		0.5 U	0.5 U
4-Methyl-2-pentanone	5 U	NQ			NQ		NQ		NQ	NQ
Acetone	5 U	NQ			NQ		NQ		NQ	NQ
Benzene	1 U	0.5 U	5 U	5 U	0.5 U	5 U	83	71	0.5 U	0.5 U
Bromobenzene	NQ	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
Bromochloromethane	1 U	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
Bromodichloromethane	1 U	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
Bromoform	1 U	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
Bromomethane	1 U	0.5 U	10 U	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U	0.5 U
Carbon disulfide	1 U	NQ			NQ		NQ		NQ	NQ
Carbon tetrachloride	1 U	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
Chlorobenzene	1 U	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
Chlorodibromomethane			5 U	5 U		5 U		5 U		

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Sample ID	02G01101	02G01102	02G01103	02G01103D	02G01201	02G01202	02G01301	02G01302	02G01401	02G01401D
Lab ID	G6991004	C127447001	A8K230141002	A8K230141003	C127723003	A8K210147003	C127723004	A8L110189007	C127723001	C127723006
Sampling Date	1-Mar-95	8-Aug-97	20-Nov-98	20-Nov-98	22-Aug-97	19-Nov-98	22-Aug-97	10-Dec-98	22-Aug-97	22-Aug-97
Chloroethane	1 U	0.5 U	10 U	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U	0.5 U
Chloroform	1 U	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.9	0.5 U
Chloromethane	1 U	0.5 U	10 U	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	1 U	0.5 U	0.49 J	0.49 J	0.5 U	2.5 U	4.1	3.3	0.5 U	0.5 U
cis-1,3-Dichloropropene	1 U	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
Dibromochloromethane	1 U	0.5 U			0.5 U		0.5 U		0.5 U	0.5 U
Dibromomethane	NQ	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
Dichlorodifluoromethane	NQ	0.5 U	10 U	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U	0.5 U
Ethylbenzene	1 U	0.5 U	5 U	5 U	0.5 U	5 U	1.9	0.5 J	0.5 U	0.5 U
Hexachlorobutadiene	10 U	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
Isopropylbenzene	NQ	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
m-Dichlorobenzene			5 U	5 U		5 U		5 U		
Methylene chloride	2 U	0.5 U	5 U	5 U	0.5 U	0.67 J	0.5 U	0.62 J	0.5 U	0.5 U
Naphthalene	10 U	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
n-Butylbenzene	NQ	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
n-Propylbenzene	NQ	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
o-Dichlorobenzene			5 U	5 U		5 U		5 U		
p-Dichlorobenzene			5 U	5 U		5 U		5 U		
p-Isopropyltoluene			5 U	5 U		5 U		5 U		
sec-Butylbenzene	NQ	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
Styrene	1 U	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
tert-Butylbenzene	NQ	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
Tetrachloroethene	1 U	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
Toluene	1 U	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	1 U	0.5 U	2.5 U	2.5 U	0.5 U	2.5 U	0.5 U	2.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	1 U	0.5 U	5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U
Trichloroethene	1 U	0.5 U	5 U	5 U	0.5 U	5 U	0.98	5 U	0.5 U	0.5 U
Trichlorofluoromethane	NQ	0.5 U	10 U	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U	0.5 U
Vinyl chloride	1 U	0.5 U	10 U	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U	0.5 U
m/p-Xylene	NQ	0.5 U	2.5 U	2.5 U	NQ	2.5 U	NQ	2.5 U	NQ	NQ
o-Xylene	NQ	0.5 U	2.5 U	2.5 U	NQ	2.5 U	NQ	2.5 U	NQ	NQ
Xylene (total)	1 U	*			0.5 U		0.5 U		0.5 U	0.5 U
Light gases, ug/L										
Methane			180 D	210 D		8		770 D		
Ethane			0.5 U	0.5 U		0.5 U		1.4		
Ethene			0.5 U	0.5 U		0.5 U		0.5 U		
General Chemistry, mg/L										
Total Organic Carbon			3	3		2		3		
Semivolatile Organics, ug/L										
2,2'-oxybis(1-Chloropropane)	10 U	NA			NA		NA		NA	NA

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Sample ID	02G01101	02G01102	02G01103	02G01103D	02G01201	02G01202	02G01301	02G01302	02G01401	02G01401D
Lab ID	G6991004	C127447001	A8K230141002	A8K230141003	C127723003	A8K210147003	C127723004	A8L110189007	C127723001	C127723006
Sampling Date	1-Mar-95	8-Aug-97	20-Nov-98	20-Nov-98	22-Aug-97	19-Nov-98	22-Aug-97	10-Dec-98	22-Aug-97	22-Aug-97
2,4,5-Trichlorophenol	25 U	NA			NA		NA		NA	NA
2,4,6-Trichlorophenol	10 U	NA			NA		NA		NA	NA
2,4-Dichlorophenol	10 U	NA			NA		NA		NA	NA
2,4-Dimethylphenol	10 U	NA			NA		NA		NA	NA
2,4-Dinitrophenol	25 U	NA			NA		NA		NA	NA
2,4-Dinitrotoluene	10 U	NA			NA		NA		NA	NA
2,6-Dinitrotoluene	10 U	NA			NA		NA		NA	NA
2-Chloronaphthalene	10 U	NA			NA		NA		NA	NA
2-Chlorophenol	10 U	NA			NA		NA		NA	NA
2-Methylnaphthalene	10 U	NA			NA		NA		NA	NA
2-Methylphenol	10 U	NA			NA		NA		NA	NA
2-Nitroaniline	25 U	NA			NA		NA		NA	NA
2-Nitrophenol	10 U	NA			NA		NA		NA	NA
3,3'-Dichlorobenzidine	10 U	NA			NA		NA		NA	NA
3-Nitroaniline	25 U	NA			NA		NA		NA	NA
4,6-Dinitro-2-methylphenol	25 U	NA			NA		NA		NA	NA
4-Bromophenyl-phenylether	10 U	NA			NA		NA		NA	NA
4-Chloro-3-methylphenol	10 U	NA			NA		NA		NA	NA
4-Chloroaniline	10 U	NA			NA		NA		NA	NA
4-Chlorophenyl-phenylether	10 U	NA			NA		NA		NA	NA
4-Methylphenol	10 U	NA			NA		NA		NA	NA
4-Nitroaniline	25 U	NA			NA		NA		NA	NA
4-Nitrophenol	25 U	NA			NA		NA		NA	NA
Acenaphthene	10 U	NA			NA		NA		NA	NA
Acenaphthylene	10 U	NA			NA		NA		NA	NA
Anthracene	10 U	NA			NA		NA		NA	NA
Benzo(a)anthracene	10 U	NA			NA		NA		NA	NA
Benzo(a)pyrene	0.02 U	NA			NA		NA		NA	NA
Benzo(b)fluoranthene	10 U	NA			NA		NA		NA	NA
Benzo(g,h,i)perylene	10 U	NA			NA		NA		NA	NA
Benzo(k)fluoranthene	10 U	NA			NA		NA		NA	NA
bis(2-Chloroethoxy)methane	10 U	NA			NA		NA		NA	NA
bis(2-Chloroethyl)ether	10 U	NA			NA		NA		NA	NA
bis(2-Ethylhexyl)phthalate	1 U	NA			NA		NA		NA	NA
Butylbenzylphthalate	10 U	NA			NA		NA		NA	NA
Carbazole	10 U	NA			NA		NA		NA	NA
Chrysene	10 U	NA			NA		NA		NA	NA
Di-n-butylphthalate	10 U	NA			NA		NA		NA	NA
Di-n-octylphthalate	10 U	NA			NA		NA		NA	NA
Dibenz(a,h)anthracene	10 U	NA			NA		NA		NA	NA

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Sample ID	02G01101		02G01102		02G01103		02G01103D		02G01201		02G01202		02G01301		02G01302		02G01401		02G01401D	
Lab ID	G6991004		C127447001		A8K230141002		A8K230141003		C127723003		A8K210147003		C127723004		A8L110189007		C127723001		C127723006	
Sampling Date	1-Mar-95		8-Aug-97		20-Nov-98		20-Nov-98		22-Aug-97		19-Nov-98		22-Aug-97		10-Dec-98		22-Aug-97		22-Aug-97	
Dibenzofuran	10	U	NA						NA				NA				NA		NA	
Diethylphthalate	10	U	NA						NA				NA				NA		NA	
Dimethylphthalate	10	U	NA						NA				NA				NA		NA	
Fluoranthene	10	U	NA						NA				NA				NA		NA	
Fluorene	10	U	NA						NA				NA				NA		NA	
Hexachlorobenzene	1	U	NA						NA				NA				NA		NA	
Hexachlorocyclopentadiene	10	U	NA						NA				NA				NA		NA	
Hexachloroethane	10	U	NA						NA				NA				NA		NA	
Indeno(1,2,3-cd)pyrene	10	U	NA						NA				NA				NA		NA	
Isophorone	10	U	NA						NA				NA				NA		NA	
N-Nitroso-di-n-propylamine	10	U	NA						NA				NA				NA		NA	
N-Nitrosodiphenylamine (1)	10	U	NA						NA				NA				NA		NA	
Nitrobenzene	10	U	NA						NA				NA				NA		NA	
Pentachlorophenol	1	U	NA						NA				NA				NA		NA	
Phenanthrene	2	J	NA						NA				NA				NA		NA	
Phenol	10	U	NA						NA				NA				NA		NA	
Pyrene	10	U	NA						NA				NA				NA		NA	
Pesticides/PCBs, ug/L																				
4,4'-DDD	0.1	UJ	NA						NA				NA				NA		NA	
4,4'-DDE	0.1	UJ	NA						NA				NA				NA		NA	
4,4'-DDT	0.1	UJ	NA						NA				NA				NA		NA	
Aldrin	0.05	UJ	NA						NA				NA				NA		NA	
alpha-BHC	0.05	UJ	NA						NA				NA				NA		NA	
alpha-Chlordane	0.05	UJ	NA						NA				NA				NA		NA	
Aroclor-1016	0.5	UJ	NA						NA				NA				NA		NA	
Aroclor-1221	0.5	UJ	NA						NA				NA				NA		NA	
Aroclor-1232	0.5	UJ	NA						NA				NA				NA		NA	
Aroclor-1242	0.5	UJ	NA						NA				NA				NA		NA	
Aroclor-1248	0.5	UJ	NA						NA				NA				NA		NA	
Aroclor-1254	0.5	UJ	NA						NA				NA				NA		NA	
Aroclor-1260	0.5	UJ	NA						NA				NA				NA		NA	
beta-BHC	0.05	UJ	NA						NA				NA				NA		NA	
delta-BHC	0.05	UJ	NA						NA				NA				NA		NA	
Dieldrin	0.1	UJ	NA						NA				NA				NA		NA	
Endosulfan I	0.05	UJ	NA						NA				NA				NA		NA	
Endosulfan II	0.1	UJ	NA						NA				NA				NA		NA	
Endosulfan sulfate	0.1	UJ	NA						NA				NA				NA		NA	
Endrin	0.1	UJ	NA						NA				NA				NA		NA	
Endrin aldehyde	0.1	UJ	NA						NA				NA				NA		NA	
Endrin ketone	0.1	UJ	NA						NA				NA				NA		NA	

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Sample ID	02G01101	02G01102	02G01103	02G01103D	02G01201	02G01202	02G01301	02G01302	02G01401	02G01401D
Lab ID	G6991004	C127447001	A8K230141002	A8K230141003	C127723003	A8K210147003	C127723004	A8L110189007	C127723001	C127723006
Sampling Date	1-Mar-95	8-Aug-97	20-Nov-98	20-Nov-98	22-Aug-97	19-Nov-98	22-Aug-97	10-Dec-98	22-Aug-97	22-Aug-97
gamma-BHC (Lindane)	0.05 UJ	NA			NA		NA		NA	NA
gamma-Chlordane	0.05 UJ	NA			NA		NA		NA	NA
Heptachlor	0.05 UJ	NA			NA		NA		NA	NA
Heptachlor epoxide	0.05 UJ	NA			NA		NA		NA	NA
Methoxychlor	0.5 UJ	NA			NA		NA		NA	NA
Toxaphene	5 UJ	NA			NA		NA		NA	NA
Inorganics, ug/L										
Aluminum	294	NA			NA		NA		NA	NA
Antimony	2.5 U	NA			NA		NA		NA	NA
Arsenic	1.9 U	NA			NA		NA		NA	NA
Barium	7.4 B	NA			NA		NA		NA	NA
Beryllium	0.2 U	NA			NA		NA		NA	NA
Cadmium	3.1 U	NA			NA		NA		NA	NA
Calcium	16300	NA			NA		NA		NA	NA
Chromium	2.5 U	NA			NA		NA		NA	NA
Cobalt	2 U	NA			NA		NA		NA	NA
Copper	2.2 UJ	NA			NA		NA		NA	NA
Iron	332	NA			NA		NA		NA	NA
Lead	1.5 U	NA			NA		NA		NA	NA
Magnesium	1580 B	NA			NA		NA		NA	NA
Manganese	15.6	NA			NA		NA		NA	NA
Mercury	0.12 U	NA			NA		NA		NA	NA
Nickel	9.6 U	NA			NA		NA		NA	NA
Potassium	1830 B	NA			NA		NA		NA	NA
Selenium	2.3 U	NA			NA		NA		NA	NA
Silver	2.7 U	NA			NA		NA		NA	NA
Sodium	2790 B	NA			NA		NA		NA	NA
Thallium	1.8 UJ	NA			NA		NA		NA	NA
Vanadium	2.1 U	NA			NA		NA		NA	NA
Zinc	6 B	NA			NA		NA		NA	NA
Radiological, pCi/L										
Gross Alpha	1.3	NA			NA		NA		NA	NA
Gross Beta	3.7	NA			NA		NA		NA	NA

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Table C-3. Summary of Groundwater Analytical Results
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Sample ID	02G01402	02G01501	02G01502	02G01601	02G01602	02G01701	02G01702	02G01801	02G01802	02G01901
Lab ID	A8L090188006	OTCW3*2	A8L110189003	OTCW3*3	A8L110189002	OTCW3*4	A8L110189004	OTCW3*5	A8L110189005	OTCW3*6
Sampling Date	8-Dec-98	29-Dec-97	9-Dec-98	29-Dec-97	9-Dec-98	29-Dec-97	9-Dec-98	29-Dec-97	9-Dec-98	29-Dec-97
Volatile Organics, ug/L										
1,1,1,2-Tetrachloroethane	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
1,1,1-Trichloroethane	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
1,1,2,2-Tetrachloroethane	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
1,1,2-Trichloroethane	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
1,1-Dichloroethane	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
1,1-Dichloroethene	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
1,1-Dichloropropene	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
1,2,3-Trichlorobenzene	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
1,2,4-Trichlorobenzene		0.5 U		0.5 U		0.5 U		0.5 U		0.5 U
1,2,3-Trichloropropane	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
1,2,4-Trichlorobenzene	5 U		5 U		5 U		5 U		5 U	
1,2,4-Trimethylbenzene	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
1,2-Dibromo-3-chloropropane	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U
1,2-Dibromoethane	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
1,2-Dichlorobenzene		0.5 U		0.5 U		0.5 U		0.5 U		0.5 U
1,3-Dichlorobenzene		0.5 U		0.5 U		0.5 U		0.5 U		0.5 U
1,4-Dichlorobenzene		0.5 U		0.5 U		0.5 U		0.5 U		0.5 U
1,2-Dichloroethane	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
1,2-Dichloropropane	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
1,3,5-Trimethylbenzene	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
1,3-Dichloropropane	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
2,2-Dichloropropane	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
2-Butanone		NQ		NQ		NQ		NQ		NQ
2-Chlorotoluene	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
2-Hexanone		NQ		NQ		NQ		NQ		NQ
4-Chlorotoluene	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
4-Isopropyltoluene		0.67		0.5 U		0.5 U		0.5 U		0.5 U
4-Methyl-2-pentanone		NQ		NQ		NQ		NQ		NQ
Acetone		NQ		NQ		NQ		NQ		NQ
Benzene	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	52.1
Bromobenzene	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
Bromochloromethane	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
Bromodichloromethane	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
Bromoform	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
Bromomethane	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U
Carbon disulfide		NQ		NQ		NQ		NQ		NQ
Carbon tetrachloride	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
Chlorobenzene	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
Chlorodibromomethane	5 U		5 U		5 U		5 U		5 U	

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Sample ID	02G01402	02G01501	02G01502	02G01601	02G01602	02G01701	02G01702	02G01801	02G01802	02G01901
Lab ID	A8L090188006	OTCW3*2	A8L110189003	OTCW3*3	A8L110189002	OTCW3*4	A8L110189004	OTCW3*5	A8L110189005	OTCW3*6
Sampling Date	8-Dec-98	29-Dec-97	9-Dec-98	29-Dec-97	9-Dec-98	29-Dec-97	9-Dec-98	29-Dec-97	9-Dec-98	29-Dec-97
Chloroethane	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U
Chloroform	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
Chloromethane	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U
cis-1,2-Dichloroethene	2.5 U	0.5 U	2.5 U	0.5 U	2.5 U	0.5 U	2.5 U	0.5 U	2.5 U	1.75
cis-1,3-Dichloropropene	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
Dibromochloromethane		0.5 U		0.5 U		0.5 U		0.5 U		0.5 U
Dibromomethane	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
Dichlorodifluoromethane	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U
Ethylbenzene	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.7
Hexachlorobutadiene	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
Isopropylbenzene	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
m-Dichlorobenzene	5 U		5 U		5 U		5 U		5 U	
Methylene chloride	0.65 J	0.5 U	0.51 J	0.5 U	5 U	0.5 U	5 U	0.5 U	0.58 J	0.5 U
Naphthalene	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
n-Butylbenzene	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
n-Propylbenzene	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
o-Dichlorobenzene	5 U		5 U		5 U		5 U		0.77 J	
p-Dichlorobenzene	5 U		5 U		5 U		5 U		5 U	
p-Isopropyltoluene	5 U		5 U		5 U		5 U		5 U	
sec-Butylbenzene	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
Styrene	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
tert-Butylbenzene	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
Tetrachloroethene	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
Toluene	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
trans-1,2-Dichloroethene	2.5 U	0.5 U	2.5 U	0.5 U	2.5 U	0.5 U	2.5 U	0.5 U	2.5 U	0.5 U
trans-1,3-Dichloropropene	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
Trichloroethene	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
Trichlorofluoromethane	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U
Vinyl chloride	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	0.5 U
m/p-Xylene	2.5 U	NQ	2.5 U	NQ	2.5 U	NQ	2.5 U	NQ	2.5 U	NQ
o-Xylene	2.5 U	NQ	2.5 U	NQ	2.5 U	NQ	2.5 U	NQ	2.5 U	NQ
Xylene (total)		0.5 U		0.5 U		0.5 U		0.5 U		2.94
Light gases, ug/L										
Methane	920 D		89 D		78 D		170 D		23	
Ethane	0.5 U		0.5 U		0.5 U		0.5 U		0.5 U	
Ethene	0.5 U		0.5 U		0.5 U		0.5 U		0.5 U	
General Chemistry, mg/L										
Total Organic Carbon	3		18		2		2		3	
Semivolatile Organics, ug/L										
2,2'-oxybis(1-Chloropropane)		NA		NA		NA		NA		NA

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Sample ID	02G01402	02G01501	02G01502	02G01601	02G01602	02G01701	02G01702	02G01801	02G01802	02G01901
Lab ID	A8L090188006	OTCW3*2	A8L110189003	OTCW3*3	A8L110189002	OTCW3*4	A8L110189004	OTCW3*5	A8L110189005	OTCW3*6
Sampling Date	8-Dec-98	29-Dec-97	9-Dec-98	29-Dec-97	9-Dec-98	29-Dec-97	9-Dec-98	29-Dec-97	9-Dec-98	29-Dec-97
2,4,5-Trichlorophenol		NA		NA		NA		NA		NA
2,4,6-Trichlorophenol		NA		NA		NA		NA		NA
2,4-Dichlorophenol		NA		NA		NA		NA		NA
2,4-Dimethylphenol		NA		NA		NA		NA		NA
2,4-Dinitrophenol		NA		NA		NA		NA		NA
2,4-Dinitrotoluene		NA		NA		NA		NA		NA
2,6-Dinitrotoluene		NA		NA		NA		NA		NA
2-Chloronaphthalene		NA		NA		NA		NA		NA
2-Chlorophenol		NA		NA		NA		NA		NA
2-Methylnaphthalene		NA		NA		NA		NA		NA
2-Methylphenol		NA		NA		NA		NA		NA
2-Nitroaniline		NA		NA		NA		NA		NA
2-Nitrophenol		NA		NA		NA		NA		NA
3,3'-Dichlorobenzidine		NA		NA		NA		NA		NA
3-Nitroaniline		NA		NA		NA		NA		NA
4,6-Dinitro-2-methylphenol		NA		NA		NA		NA		NA
4-Bromophenyl-phenylether		NA		NA		NA		NA		NA
4-Chloro-3-methylphenol		NA		NA		NA		NA		NA
4-Chloroaniline		NA		NA		NA		NA		NA
4-Chlorophenyl-phenylether		NA		NA		NA		NA		NA
4-Methylphenol		NA		NA		NA		NA		NA
4-Nitroaniline		NA		NA		NA		NA		NA
4-Nitrophenol		NA		NA		NA		NA		NA
Acenaphthene		NA		NA		NA		NA		NA
Acenaphthylene		NA		NA		NA		NA		NA
Anthracene		NA		NA		NA		NA		NA
Benzo(a)anthracene		NA		NA		NA		NA		NA
Benzo(a)pyrene		NA		NA		NA		NA		NA
Benzo(b)fluoranthene		NA		NA		NA		NA		NA
Benzo(g,h,i)perylene		NA		NA		NA		NA		NA
Benzo(k)fluoranthene		NA		NA		NA		NA		NA
bis(2-Chloroethoxy)methane		NA		NA		NA		NA		NA
bis(2-Chloroethyl)ether		NA		NA		NA		NA		NA
bis(2-Ethylhexyl)phthalate		NA		NA		NA		NA		NA
Butylbenzylphthalate		NA		NA		NA		NA		NA
Carbazole		NA		NA		NA		NA		NA
Chrysene		NA		NA		NA		NA		NA
Di-n-butylphthalate		NA		NA		NA		NA		NA
Di-n-octylphthalate		NA		NA		NA		NA		NA
Dibenz(a,h)anthracene		NA		NA		NA		NA		NA

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Sample ID	02G01402	02G01501	02G01502	02G01601	02G01602	02G01701	02G01702	02G01801	02G01802	02G01901
Lab ID	A8L090188006	OTCW3*2	A8L110189003	OTCW3*3	A8L110189002	OTCW3*4	A8L110189004	OTCW3*5	A8L110189005	OTCW3*6
Sampling Date	8-Dec-98	29-Dec-97	9-Dec-98	29-Dec-97	9-Dec-98	29-Dec-97	9-Dec-98	29-Dec-97	9-Dec-98	29-Dec-97
Dibenzofuran		NA		NA		NA		NA		NA
Diethylphthalate		NA		NA		NA		NA		NA
Dimethylphthalate		NA		NA		NA		NA		NA
Fluoranthene		NA		NA		NA		NA		NA
Fluorene		NA		NA		NA		NA		NA
Hexachlorobenzene		NA		NA		NA		NA		NA
Hexachlorocyclopentadiene		NA		NA		NA		NA		NA
Hexachloroethane		NA		NA		NA		NA		NA
Indeno(1,2,3-cd)pyrene		NA		NA		NA		NA		NA
Isophorone		NA		NA		NA		NA		NA
N-Nitroso-di-n-propylamine		NA		NA		NA		NA		NA
N-Nitrosodiphenylamine (1)		NA		NA		NA		NA		NA
Nitrobenzene		NA		NA		NA		NA		NA
Pentachlorophenol		NA		NA		NA		NA		NA
Phenanthrene		NA		NA		NA		NA		NA
Phenol		NA		NA		NA		NA		NA
Pyrene		NA		NA		NA		NA		NA
Pesticides/PCBs, ug/L										
4,4'-DDD		NA		NA		NA		NA		NA
4,4'-DDE		NA		NA		NA		NA		NA
4,4'-DDT		NA		NA		NA		NA		NA
Aldrin		NA		NA		NA		NA		NA
alpha-BHC		NA		NA		NA		NA		NA
alpha-Chlordane		NA		NA		NA		NA		NA
Aroclor-1016		NA		NA		NA		NA		NA
Aroclor-1221		NA		NA		NA		NA		NA
Aroclor-1232		NA		NA		NA		NA		NA
Aroclor-1242		NA		NA		NA		NA		NA
Aroclor-1248		NA		NA		NA		NA		NA
Aroclor-1254		NA		NA		NA		NA		NA
Aroclor-1260		NA		NA		NA		NA		NA
beta-BHC		NA		NA		NA		NA		NA
delta-BHC		NA		NA		NA		NA		NA
Dieldrin		NA		NA		NA		NA		NA
Endosulfan I		NA		NA		NA		NA		NA
Endosulfan II		NA		NA		NA		NA		NA
Endosulfan sulfate		NA		NA		NA		NA		NA
Endrin		NA		NA		NA		NA		NA
Endrin aldehyde		NA		NA		NA		NA		NA
Endrin ketone		NA		NA		NA		NA		NA

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Sample ID	02G01402	02G01501	02G01502	02G01601	02G01602	02G01701	02G01702	02G01801	02G01802	02G01901
Lab ID	A8L090188006	OTCW3*2	A8L110189003	OTCW3*3	A8L110189002	OTCW3*4	A8L110189004	OTCW3*5	A8L110189005	OTCW3*6
Sampling Date	8-Dec-98	29-Dec-97	9-Dec-98	29-Dec-97	9-Dec-98	29-Dec-97	9-Dec-98	29-Dec-97	9-Dec-98	29-Dec-97
gamma-BHC (Lindane)		NA		NA		NA		NA		NA
gamma-Chlordane		NA		NA		NA		NA		NA
Heptachlor		NA		NA		NA		NA		NA
Heptachlor epoxide		NA		NA		NA		NA		NA
Methoxychlor		NA		NA		NA		NA		NA
Toxaphene		NA		NA		NA		NA		NA
Inorganics, ug/L										
Aluminum		NA		NA		NA		NA		NA
Antimony		NA		NA		NA		NA		NA
Arsenic		NA		NA		NA		NA		NA
Barium		NA		NA		NA		NA		NA
Beryllium		NA		NA		NA		NA		NA
Cadmium		NA		NA		NA		NA		NA
Calcium		NA		NA		NA		NA		NA
Chromium		NA		NA		NA		NA		NA
Cobalt		NA		NA		NA		NA		NA
Copper		NA		NA		NA		NA		NA
Iron		NA		NA		NA		NA		NA
Lead		NA		NA		NA		NA		NA
Magnesium		NA		NA		NA		NA		NA
Manganese		NA		NA		NA		NA		NA
Mercury		NA		NA		NA		NA		NA
Nickel		NA		NA		NA		NA		NA
Potassium		NA		NA		NA		NA		NA
Selenium		NA		NA		NA		NA		NA
Silver		NA		NA		NA		NA		NA
Sodium		NA		NA		NA		NA		NA
Thallium		NA		NA		NA		NA		NA
Vanadium		NA		NA		NA		NA		NA
Zinc		NA		NA		NA		NA		NA
Radiological, pCi/L										
Gross Alpha		NA		NA		NA		NA		NA
Gross Beta		NA		NA		NA		NA		NA

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Sample ID	02G01901D	02G01902	02G02001	02G02101	02G02101D	02G10001	02G10001D	02G10101	02G10201	02G10301
Lab ID	OTCW3*7	A8L110189006	A8K210147002	A8L090188002	A8L090188003	OTCW1*41	OTCW1*42	OTCW1*40	OTCW1*39	OTCW1*38
Sampling Date	29-Dec-97	9-Dec-98	18-Nov-98	7-Dec-98	7-Dec-98	30-Jul-97	30-Jul-97	30-Jul-97	30-Jul-97	30-Jul-97
Volatile Organics, ug/L										
1,1,1,2-Tetrachloroethane	0.5 U	5 U	10 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	0.5 U	5 U	10 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.5 U	5 U	10 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.5 U	5 U	10 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	5 U	10 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	0.5 U	5 U	10 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	0.5 U	5 U	10 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	0.5 U	5 U	10 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	0.5 U					0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	0.5 U	5 U	10 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene		5 U	10 U	5 U	5 U					
1,2,4-Trimethylbenzene	0.5 U	5 U	10 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	0.5 U	10 U	20 U	10 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromoethane	0.5 U	5 U	10 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	0.5 U					0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	0.5 U					0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	0.5 U					0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.5 U	5 U	10 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	0.5 U	5 U	10 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene	0.5 U	5 U	2.9 J	4.5 J	3.4 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	0.5 U	5 U	10 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	0.5 U	5 U	10 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone	NQ					NQ	NQ	NQ	NQ	NQ
2-Chlorotoluene	0.5 U	5 U	10 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Hexanone	NQ					NQ	NQ	NQ	NQ	NQ
4-Chlorotoluene	0.5 U	5 U	10 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Isopropyltoluene	0.5 U					0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Methyl-2-pentanone	NQ					NQ	NQ	NQ	NQ	NQ
Acetone	NQ					NQ	NQ	NQ	NQ	NQ
Benzene	53.5	38	46	50	56	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromobenzene	0.5 U	5 U	10 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	0.5 U	5 U	10 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	0.5 U	5 U	10 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	5 U	10 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	0.5 U	10 U	20 U	10 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	NQ					NQ	NQ	NQ	NQ	NQ
Carbon tetrachloride	0.5 U	5 U	10 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	0.5 U	5 U	10 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorodibromomethane		5 U	10 U	5 U	5 U					

Appendix C
Table C-3. Summary of Groundwater Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02G01901D		02G01902		02G02001		02G02101		02G02101D		02G10001		02G10001D		02G10101		02G10201		02G10301	
Lab ID	OTCW3*7		A8L110189006		A8K210147002		A8L090188002		A8L090188003		OTCW1*41		OTCW1*42		OTCW1*40		OTCW1*39		OTCW1*38	
Sampling Date	29-Dec-97		9-Dec-98		18-Nov-98		7-Dec-98		7-Dec-98		30-Jul-97		30-Jul-97		30-Jul-97		30-Jul-97		30-Jul-97	
Chloroethane	0.5	U	10	U	20	U	10	U	10	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	5	U	10	U	5	U	5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloromethane	0.5	U	10	U	20	U	10	U	10	U	0.54		0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	1.68		1.9	J	3.7	J	3.7		4		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	5	U	10	U	5	U	5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U									0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	5	U	10	U	5	U	5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	10	U	20	U	10	U	10	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.66		0.67	J	10	U	1	J	1	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	5	U	10	U	5	U	5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Isopropylbenzene	0.5	U	5	U	1.3	J	5	U	5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene			5	U	10	U	5	U	5	U										
Methylene chloride	0.5	U	0.69	J	1	J	0.74	J	0.65	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	5	U	10	U	5	U	5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	5	U	10	U	5	U	5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	5	U	10	U	5	U	5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene			5	U	10	U	5	U	5	U										
p-Dichlorobenzene			5	U	10	U	5	U	5	U										
p-Isopropyltoluene			5	U	10	U	5	U	5	U										
sec-Butylbenzene	0.5	U	5	U	10	U	5	U	5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	5	U	10	U	5	U	5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	5	U	10	U	5	U	5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethene	0.5	U	5	U	10	U	5	U	5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	5	U	10	U	5	U	5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,2-Dichloroethene	0.5	U	2.5	U	5	U	2.5	U	2.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	5	U	10	U	5	U	5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	0.5	U	5	U	1.1	J	1.5	J	1.6	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	10	U	20	U	10	U	10	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	10	U	20	U	10	U	10	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p-Xylene	NQ		1.5	J	5	U	2.5	U	2.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	NQ		0.61	J	5	U	2.5	U	2.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	2.8											*		*		*		*		*
Light gases, ug/L																				
Methane			240	D	340	E	680	D	660	D										
Ethane			0.74		0.68		1.3		1.2											
Ethene			0.5	U	0.5	U	0.5	U	0.5	U										
General Chemistry, mg/L																				
Total Organic Carbon			2		4		7		7											
Semivolatile Organics, ug/L																				
2,2'-oxybis(1-Chloropropane)	NA										NA		NA		NA		NA		NA	

Appendix C
Table C-3. Summary of Groundwater Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02G01901D	02G01902	02G02001	02G02101	02G02101D	02G10001	02G10001D	02G10101	02G10201	02G10301
Lab ID	OTCW3*7	A8L110189006	A8K210147002	A8L090188002	A8L090188003	OTCW1*41	OTCW1*42	OTCW1*40	OTCW1*39	OTCW1*38
Sampling Date	29-Dec-97	9-Dec-98	18-Nov-98	7-Dec-98	7-Dec-98	30-Jul-97	30-Jul-97	30-Jul-97	30-Jul-97	30-Jul-97
2,4,5-Trichlorophenol	NA					NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA					NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA					NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA					NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA					NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA					NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA					NA	NA	NA	NA	NA
2-Chloronaphthalene	NA					NA	NA	NA	NA	NA
2-Chlorophenol	NA					NA	NA	NA	NA	NA
2-Methylnaphthalene	NA					NA	NA	NA	NA	NA
2-Methylphenol	NA					NA	NA	NA	NA	NA
2-Nitroaniline	NA					NA	NA	NA	NA	NA
2-Nitrophenol	NA					NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA					NA	NA	NA	NA	NA
3-Nitroaniline	NA					NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA					NA	NA	NA	NA	NA
4-Bromophenyl-phenylether	NA					NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA					NA	NA	NA	NA	NA
4-Chloroaniline	NA					NA	NA	NA	NA	NA
4-Chlorophenyl-phenylether	NA					NA	NA	NA	NA	NA
4-Methylphenol	NA					NA	NA	NA	NA	NA
4-Nitroaniline	NA					NA	NA	NA	NA	NA
4-Nitrophenol	NA					NA	NA	NA	NA	NA
Acenaphthene	NA					NA	NA	NA	NA	NA
Acenaphthylene	NA					NA	NA	NA	NA	NA
Anthracene	NA					NA	NA	NA	NA	NA
Benzo(a)anthracene	NA					NA	NA	NA	NA	NA
Benzo(a)pyrene	NA					NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA					NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA					NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA					NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA					NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA					NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	NA					NA	NA	NA	NA	NA
Butylbenzylphthalate	NA					NA	NA	NA	NA	NA
Carbazole	NA					NA	NA	NA	NA	NA
Chrysene	NA					NA	NA	NA	NA	NA
Di-n-butylphthalate	NA					NA	NA	NA	NA	NA
Di-n-octylphthalate	NA					NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA					NA	NA	NA	NA	NA

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Table C-3. Summary of Groundwater Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02G01901D	02G01902	02G02001	02G02101	02G02101D	02G10001	02G10001D	02G10101	02G10201	02G10301
Lab ID	OTCW3*7	A8L110189006	A8K210147002	A8L090188002	A8L090188003	OTCW1*41	OTCW1*42	OTCW1*40	OTCW1*39	OTCW1*38
Sampling Date	29-Dec-97	9-Dec-98	18-Nov-98	7-Dec-98	7-Dec-98	30-Jul-97	30-Jul-97	30-Jul-97	30-Jul-97	30-Jul-97
Dibenzofuran	NA					NA	NA	NA	NA	NA
Diethylphthalate	NA					NA	NA	NA	NA	NA
Dimethylphthalate	NA					NA	NA	NA	NA	NA
Fluoranthene	NA					NA	NA	NA	NA	NA
Fluorene	NA					NA	NA	NA	NA	NA
Hexachlorobenzene	NA					NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA					NA	NA	NA	NA	NA
Hexachloroethane	NA					NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA					NA	NA	NA	NA	NA
Isophorone	NA					NA	NA	NA	NA	NA
N-Nitroso-di-n-propylamine	NA					NA	NA	NA	NA	NA
N-Nitrosodiphenylamine (1)	NA					NA	NA	NA	NA	NA
Nitrobenzene	NA					NA	NA	NA	NA	NA
Pentachlorophenol	NA					NA	NA	NA	NA	NA
Phenanthrene	NA					NA	NA	NA	NA	NA
Phenol	NA					NA	NA	NA	NA	NA
Pyrene	NA					NA	NA	NA	NA	NA
Pesticides/PCBs, ug/L										
4,4'-DDD	NA					NA	NA	NA	NA	NA
4,4'-DDE	NA					NA	NA	NA	NA	NA
4,4'-DDT	NA					NA	NA	NA	NA	NA
Aldrin	NA					NA	NA	NA	NA	NA
alpha-BHC	NA					NA	NA	NA	NA	NA
alpha-Chlordane	NA					NA	NA	NA	NA	NA
Aroclor-1016	NA					NA	NA	NA	NA	NA
Aroclor-1221	NA					NA	NA	NA	NA	NA
Aroclor-1232	NA					NA	NA	NA	NA	NA
Aroclor-1242	NA					NA	NA	NA	NA	NA
Aroclor-1248	NA					NA	NA	NA	NA	NA
Aroclor-1254	NA					NA	NA	NA	NA	NA
Aroclor-1260	NA					NA	NA	NA	NA	NA
beta-BHC	NA					NA	NA	NA	NA	NA
delta-BHC	NA					NA	NA	NA	NA	NA
Dieldrin	NA					NA	NA	NA	NA	NA
Endosulfan I	NA					NA	NA	NA	NA	NA
Endosulfan II	NA					NA	NA	NA	NA	NA
Endosulfan sulfate	NA					NA	NA	NA	NA	NA
Endrin	NA					NA	NA	NA	NA	NA
Endrin aldehyde	NA					NA	NA	NA	NA	NA
Endrin ketone	NA					NA	NA	NA	NA	NA

Appendix C
Table C-3. Summary of Groundwater Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02G01901D	02G01902	02G02001	02G02101	02G02101D	02G10001	02G10001D	02G10101	02G10201	02G10301
Lab ID	OTCW3*7	A8L110189006	A8K210147002	A8L090188002	A8L090188003	OTCW1*41	OTCW1*42	OTCW1*40	OTCW1*39	OTCW1*38
Sampling Date	29-Dec-97	9-Dec-98	18-Nov-98	7-Dec-98	7-Dec-98	30-Jul-97	30-Jul-97	30-Jul-97	30-Jul-97	30-Jul-97
gamma-BHC (Lindane)	NA					NA	NA	NA	NA	NA
gamma-Chlordane	NA					NA	NA	NA	NA	NA
Heptachlor	NA					NA	NA	NA	NA	NA
Heptachlor epoxide	NA					NA	NA	NA	NA	NA
Methoxychlor	NA					NA	NA	NA	NA	NA
Toxaphene	NA					NA	NA	NA	NA	NA
Inorganics, ug/L										
Aluminum	NA					NA	NA	NA	NA	NA
Antimony	NA					NA	NA	NA	NA	NA
Arsenic	NA					NA	NA	NA	NA	NA
Barium	NA					NA	NA	NA	NA	NA
Beryllium	NA					NA	NA	NA	NA	NA
Cadmium	NA					NA	NA	NA	NA	NA
Calcium	NA					NA	NA	NA	NA	NA
Chromium	NA					NA	NA	NA	NA	NA
Cobalt	NA					NA	NA	NA	NA	NA
Copper	NA					NA	NA	NA	NA	NA
Iron	NA					NA	NA	NA	NA	NA
Lead	NA					NA	NA	NA	NA	NA
Magnesium	NA					NA	NA	NA	NA	NA
Manganese	NA					NA	NA	NA	NA	NA
Mercury	NA					NA	NA	NA	NA	NA
Nickel	NA					NA	NA	NA	NA	NA
Potassium	NA					NA	NA	NA	NA	NA
Selenium	NA					NA	NA	NA	NA	NA
Silver	NA					NA	NA	NA	NA	NA
Sodium	NA					NA	NA	NA	NA	NA
Thallium	NA					NA	NA	NA	NA	NA
Vanadium	NA					NA	NA	NA	NA	NA
Zinc	NA					NA	NA	NA	NA	NA
Radiological, pCi/L										
Gross Alpha	NA					NA	NA	NA	NA	NA
Gross Beta	NA					NA	NA	NA	NA	NA

TABLE C-4

SUMMARY OF SURFACE WATER ("W") AND WASTEWATER ("Z") ANALYTICAL RESULTS

Appendix C
Table C-4. Summary of Surface Water ("W") and Wastewater ("Z") Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02W00101		02W00201		02W00301		02Z00101	
Lab ID	C7D140110007		C7D140110008		C7D140110009		G5865002	
Sampling Date	11-Apr-97		11-Apr-97		11-Apr-97		21-Sep-94	
Volatile Organics, ug/L								
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	NQ	
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	10	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	10	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	10	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	10	U
1,1-Dichloroethene	0.5	U	0.5	U	0.5	U	10	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	NQ	
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	NQ	
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	NQ	
1,2,4-Trimethylbenzene	0.5	U	0.5	U	0.5	U	NQ	
1,2-Dibromo-3-chloropropane	0.5	U	0.5	U	0.5	U	NQ	
1,2-Dibromoethane	0.5	U	0.5	U	0.5	U	NQ	
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	10	U
cis-1,2-Dichloroethene	0.5	U	0.5	U	0.5	U	NQ	
trans-1,2-Dichloroethene	0.5	U	0.5	U	0.5	U	NQ	
1,2-Dichloroethene (total)		*		*		*	10	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	10	U
1,3,5-Trimethylbenzene	0.5	U	0.5	U	0.5	U	NQ	
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	NQ	
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	NQ	
2-Butanone	NQ		NQ		NQ		10	U
2-Chlorotoluene	0.5	U	0.5	U	0.5	U	NQ	
2-Hexanone	NQ		NQ		NQ		10	U
4-Chlorotoluene	0.5	U	0.5	U	0.5	U	NQ	
4-Isopropyltoluene	0.5	U	0.5	U	0.5	U	NQ	
4-Methyl-2-pentanone	NQ		NQ		NQ		10	U
Acetone	NQ		NQ		NQ		10	U
Benzene	0.5	U	0.5	U	0.5	U	10	U
Bromobenzene	0.5	U	0.5	U	0.5	U	NQ	
Bromochloromethane	0.5	U	0.5	U	0.5	U	NQ	
Bromodichloromethane	0.5	U	0.5	U	0.5	U	10	U
Bromoform	0.5	U	0.5	U	0.5	U	10	U
Bromomethane	0.5	U	0.5	U	0.5	U	10	U
Carbon disulfide	NQ		NQ		NQ		10	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	10	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	10	U

Appendix C

Table C-4. Summary of Surface Water ("W") and Wastewater ("Z") Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02W00101		02W00201		02W00301		02Z00101	
Lab ID	C7D140110007		C7D140110008		C7D140110009		G5865002	
Sampling Date	11-Apr-97		11-Apr-97		11-Apr-97		21-Sep-94	
Chloroethane	0.5	U	0.5	U	0.5	U	10	U
Chloroform	0.5	U	0.5	U	0.5	U	10	U
Chloromethane	0.5	U	0.5	U	0.5	U	10	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	10	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	10	U
Dibromomethane	0.5	U	0.5	U	0.5	U	NQ	
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	NQ	
Ethylbenzene	0.5	U	0.5	U	0.5	U	10	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	10	U
Isopropylbenzene	0.5	U	0.5	U	0.5	U	NQ	
Methylene chloride	0.5	U	0.5	U	0.5	U	10	U
Naphthalene	0.5	U	0.5	U	0.5	U	10	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	NQ	
n-Propylbenzene	0.5	U	0.5	U	0.5	U	NQ	
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	NQ	
Styrene	0.5	U	0.5	U	0.5	U	10	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	NQ	
Tetrachloroethene	6.2		0.23	J	0.5	U	10	U
Toluene	0.5	U	0.5	U	0.5	U	10	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	10	U
Trichloroethene	0.2	J	0.5	U	0.5	U	10	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	NQ	
Vinyl chloride	0.5	U	0.5	U	0.5	U	10	U
Xylene (total)	0.5	U	0.5	U	0.5	U	10	U
Semivolatile Organics, ug/L								
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	10	U
1,2-Dichlorobenzene	0.5	U	0.5	U	0.5	U	10	U
1,3-Dichlorobenzene	0.5	U	0.5	U	0.5	U	10	U
1,4-Dichlorobenzene	0.5	U	0.5	U	0.5	U	10	U
2,2'-oxybis(1-Chloropropane)	NA		NA		NA		10	U
2,4,5-Trichlorophenol	NA		NA		NA		25	U
2,4,6-Trichlorophenol	NA		NA		NA		10	U
2,4-Dichlorophenol	NA		NA		NA		10	U
2,4-Dimethylphenol	NA		NA		NA		10	U
2,4-Dinitrophenol	NA		NA		NA		25	U
2,4-Dinitrotoluene	NA		NA		NA		10	U
2,6-Dinitrotoluene	NA		NA		NA		10	U

Appendix C
Table C-4. Summary of Surface Water ("W") and Wastewater ("Z") Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02W00101		02W00201		02W00301		02Z00101	
Lab ID	C7D140110007		C7D140110008		C7D140110009		G5865002	
Sampling Date	11-Apr-97		11-Apr-97		11-Apr-97		21-Sep-94	
2-Chloronaphthalene	NA		NA		NA		10	U
2-Chlorophenol	NA		NA		NA		10	U
2-Methylnaphthalene	NA		NA		NA		10	U
2-Methylphenol	NA		NA		NA		10	U
2-Nitroaniline	NA		NA		NA		25	U
2-Nitrophenol	NA		NA		NA		10	U
3,3'-Dichlorobenzidine	NA		NA		NA		10	U
3-Nitroaniline	NA		NA		NA		25	U
4,6-Dinitro-2-methylphenol	NA		NA		NA		25	U
4-Bromophenyl-phenylether	NA		NA		NA		10	U
4-Chloro-3-methylphenol	NA		NA		NA		10	U
4-Chloroaniline	NA		NA		NA		10	U
4-Chlorophenyl-phenylether	NA		NA		NA		10	U
4-Methylphenol	NA		NA		NA		10	U
4-Nitroaniline	NA		NA		NA		25	U
4-Nitrophenol	NA		NA		NA		25	U
Acenaphthene	NA		NA		NA		10	U
Acenaphthylene	NA		NA		NA		10	U
Anthracene	NA		NA		NA		10	U
Benzo(a)anthracene	NA		NA		NA		10	U
Benzo(a)pyrene	NA		NA		NA		10	U
Benzo(b)fluoranthene	NA		NA		NA		10	U
Benzo(g,h,i)perylene	NA		NA		NA		10	U
Benzo(k)fluoranthene	NA		NA		NA		10	U
bis(2-Chloroethoxy)methane	NA		NA		NA		10	U
bis(2-Chloroethyl)ether	NA		NA		NA		10	U
bis(2-Ethylhexyl)phthalate	NA		NA		NA		10	U
Butylbenzylphthalate	NA		NA		NA		10	U
Carbazole	NA		NA		NA		10	U
Chrysene	NA		NA		NA		10	U
Di-n-butylphthalate	NA		NA		NA		10	U
Di-n-octylphthalate	NA		NA		NA		10	U
Dibenz(a,h)anthracene	NA		NA		NA		10	U
Dibenzofuran	NA		NA		NA		10	U
Diethylphthalate	NA		NA		NA		10	U
Dimethylphthalate	NA		NA		NA		10	U
Fluoranthene	NA		NA		NA		10	U

Appendix C

Table C-4. Summary of Surface Water ("W") and Wastewater ("Z") Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02W00101		02W00201		02W00301		02Z00101	
Lab ID	C7D140110007		C7D140110008		C7D140110009		G5865002	
Sampling Date	11-Apr-97		11-Apr-97		11-Apr-97		21-Sep-94	
Fluorene	NA		NA		NA		10	U
Hexachlorobenzene	NA		NA		NA		10	U
Hexachlorocyclopentadiene	NA		NA		NA		10	U
Hexachloroethane	NA		NA		NA		10	U
Indeno(1,2,3-cd)pyrene	NA		NA		NA		10	U
Isophorone	NA		NA		NA		10	U
N-Nitroso-di-n-propylamine	NA		NA		NA		10	U
N-Nitrosodiphenylamine (1)	NA		NA		NA		10	U
Nitrobenzene	NA		NA		NA		10	U
Pentachlorophenol	NA		NA		NA		25	U
Phenanthrene	NA		NA		NA		10	U
Phenol	NA		NA		NA		10	U
Pyrene	NA		NA		NA		10	U
Pesticides/PCBs, ug/L								
4,4'-DDD	NA		NA		NA		0.1	U
4,4'-DDE	NA		NA		NA		0.1	U
4,4'-DDT	NA		NA		NA		0.1	U
Aldrin	NA		NA		NA		0.05	U
alpha-BHC	NA		NA		NA		0.05	U
alpha-Chlordane	NA		NA		NA		0.05	U
Aroclor-1016	NA		NA		NA		1	U
Aroclor-1221	NA		NA		NA		2	U
Aroclor-1232	NA		NA		NA		1	U
Aroclor-1242	NA		NA		NA		1	U
Aroclor-1248	NA		NA		NA		1	U
Aroclor-1254	NA		NA		NA		1	U
Aroclor-1260	NA		NA		NA		1	U
beta-BHC	NA		NA		NA		0.05	U
delta-BHC	NA		NA		NA		0.05	U
Dieldrin	NA		NA		NA		0.1	U
Endosulfan I	NA		NA		NA		0.05	U
Endosulfan II	NA		NA		NA		0.1	U
Endosulfan sulfate	NA		NA		NA		0.1	U
Endrin	NA		NA		NA		0.1	U
Endrin aldehyde	NA		NA		NA		0.1	U
Endrin ketone	NA		NA		NA		0.1	U
gamma-BHC (Lindane)	NA		NA		NA		0.05	U

Appendix C
Table C-4. Summary of Surface Water ("W") and Wastewater ("Z") Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02W00101		02W00201		02W00301		02Z00101	
Lab ID	C7D140110007		C7D140110008		C7D140110009		G5865002	
Sampling Date	11-Apr-97		11-Apr-97		11-Apr-97		21-Sep-94	
gamma-Chlordane	NA		NA		NA		0.05	U
Heptachlor	NA		NA		NA		0.05	U
Heptachlor epoxide	NA		NA		NA		0.05	U
Methoxychlor	NA		NA		NA		0.5	U
Toxaphene	NA		NA		NA		5	U
Inorganics, ug/L								
Aluminum	NA		NA		NA		22.3	B
Antimony	NA		NA		NA		19.4	U
Arsenic	NA		NA		NA		1.9	U
Barium	NA		NA		NA		16.8	B
Beryllium	NA		NA		NA		0.21	U
Cadmium	NA		NA		NA		2.9	U
Calcium	NA		NA		NA		27300	
Chromium	NA		NA		NA		1.8	U
Cobalt	NA		NA		NA		3.6	B
Copper	NA		NA		NA		3.2	B
Iron	NA		NA		NA		992	
Lead	NA		NA		NA		1.6	B
Magnesium	NA		NA		NA		1640	B
Manganese	NA		NA		NA		22.2	
Mercury	NA		NA		NA		0.06	U
Nickel	NA		NA		NA		9.2	U
Potassium	NA		NA		NA		8790	
Selenium	NA		NA		NA		2	U
Silver	NA		NA		NA		2.6	U
Sodium	NA		NA		NA		742	B
Thallium	NA		NA		NA		1.3	U
Vanadium	NA		NA		NA		2.7	U
Zinc	NA		NA		NA		3.6	B

APPENDIX D

TECHNICAL MEMORANDUM, GEOPHYSICAL SURVEY RESULTS STUDY AREA 2, HERNDON ANNEX

TECHNICAL MEMORANDUM, GEOPHYSICAL SURVEY RESULTS STUDY AREA 2, HERNDON ANNEX

INTRODUCTION. The following is a summary of the significant findings of the geophysical survey which took place in August 1994 at Herndon Annex, NTC, Orlando. Geophysical surveys were not initially planned as part of the initial site screening activities at the Herndon Annex. However, during an early August 1994 site visit, debris was observed at the surface that indicated potential landfilling activity at that facility. This resulted in a limited geophysical program (magnetometer and ground penetrating radar surveys) in the south-central and northwest portions of the Herndon Annex.

Below is a discussion of the results.

FIELD PROGRAM. Geophysical surveys included magnetometer and ground-penetrating radar (GPR) surveys in the south central and northwest portions of the Herndon Annex to verify suspicions of landfilling activity formulated during an August site visit.

Grid Coordinate System. Prior to the start of the field program, Harding Lawson Associates (HLA), established a grid coordinate system in the southern and northwestern portion of the study area. Each grid coordinate system was oriented along magnetic north and consisted of a 100- by 100-foot grid established with a compass and cloth measuring tape.

Magnetometer Survey. The magnetometer survey was conducted on August 19, 1994. The instrumentation consisted of an EDA OmniPlus proton precession magnetometer with vertical gradient capability. The survey was conducted on a 20- by 20-foot measurement grid.

The magnetic method is a versatile geophysical technique used for evaluating shallow geologic structures and for locating buried manmade objects and buried debris by mapping local distortions in the earth's magnetic field produced by buried magnetic objects (steel and other magnetic materials). Vertical gradient measurements are very useful in mapping the lateral extent of landfilled materials, because nearly all landfills contain sufficient ferrous materials to be mapped with this technique. Vertical gradient measurements of the earth's magnetic field are often taken during environmental magnetic surveys, as they are more sensitive to the presence of near-surface metal objects than total field values alone.

A total of 766 magnetometer measurements were acquired during the investigation.

Ground Penetrating Radar Survey. The GPR survey was conducted on August 23, 1994. The instrumentation consisted of a GSSI Subsurface Interface Radar System III with 500 MHz antenna.

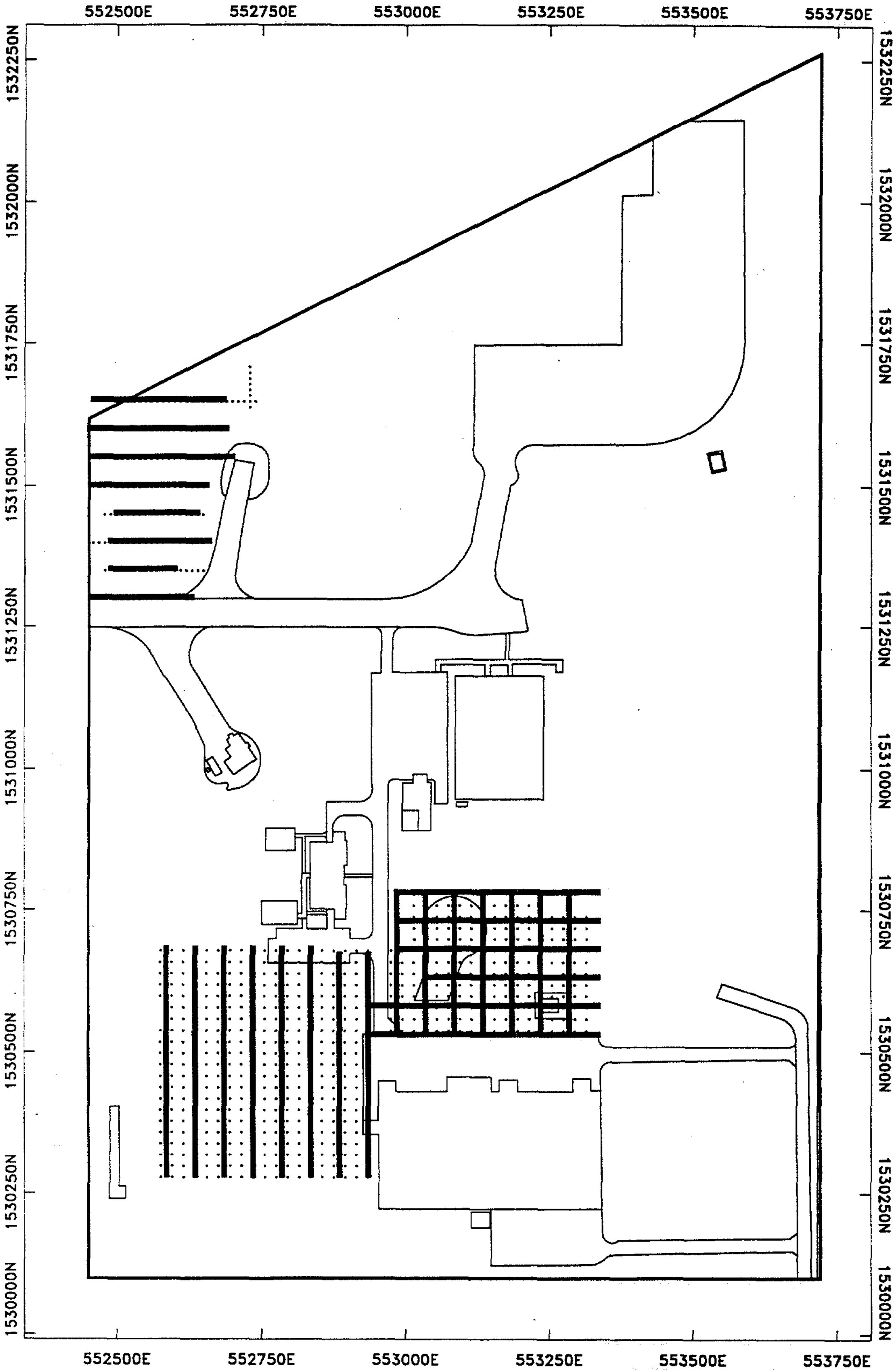
The GPR technique uses high frequency radio waves to determine the presence of subsurface objects and structures. Energy is radiated downward into the subsurface from an antenna that is pulled slowly across the ground at speeds varying from about 0.25 to 5 mph, depending on the amount of detail desired and the nature of the target. The radio wave energy is reflected from surfaces where there is a contrast in the electrical properties of subsurface materials. These surfaces may be naturally occurring geologic horizons (e.g., soil layers, changes in moisture content, voids and fractures in bedrock) or manmade (e.g., buried utilities, tanks, drums). The reflected energy is processed and displayed as a continuous strip chart recording of distance versus time (where time can be thought of as proportional to depth). The depth of penetration of a GPR system is highly site-specific, and depends, among other factors, on (1) the soil types at the site (clean sands are best), (2) moisture conditions (dry is best), and (3) the frequency of the antenna (the lower the frequency, the deeper the penetration, and the less the resolution capability).

Typical applications for GPR include delineating the boundaries of buried hazardous waste materials and the perimeters of abandoned landfills; finding steel reinforcement bars and voids in concrete structures; recording the depth of geological interfaces; and locating and mapping buried utilities.

<u>RESULTS</u>. Figure 1 shows the approximate location of the magnetometer and GPR surveys completed at Herndon Annex, and Figure 2 presents the vertical gradient (magnetic) contours for the geophysical data. The magnetic data indicate and the GPR data confirm that the south-central survey area is underlain by numerous anomalies that are not explained by known subsurface structures or observable surface features. In addition, GPR data are consistent with buried waste materials (typified by widespread chaotic reflections). Although unconfirmed by actual field verification, the landfill cover appears to be in the range of 1 to 3 feet thick, and in some areas may be greater than 3 feet thick.

The northwest survey area is magnetically nondescript and different from the south central survey area, although the GPR data are consistent with buried debris. We observed two or three north-south trending subtle ridges in this area that former trenches (commonly used by the military for waste disposal) and may have received wastes.

The interpreted boundaries of waste disposal in the south-central and northwest survey areas are presented on Figure 3.



Scale 1:3600

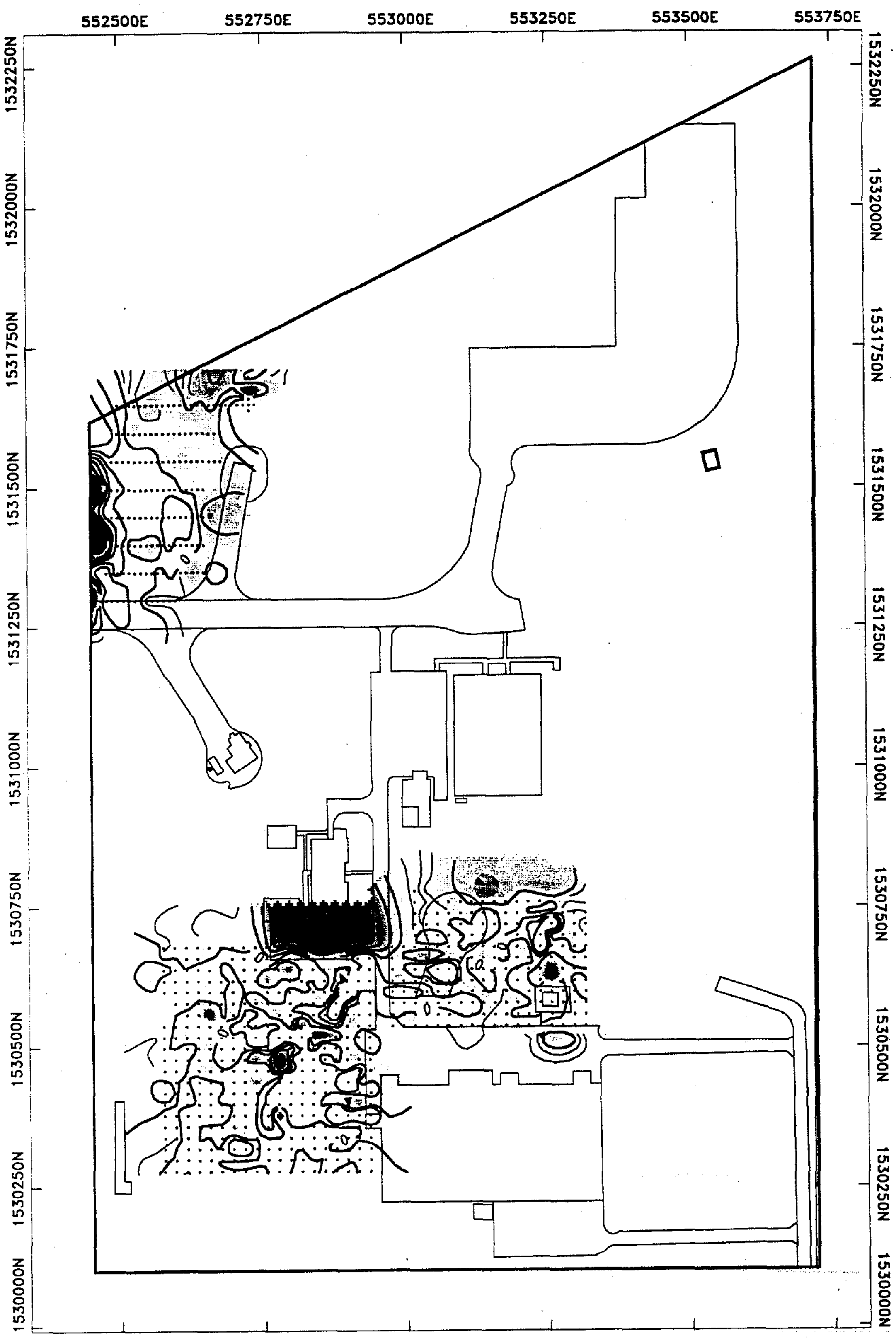
250 0 250

(feet)

MAGNETIC READING

GPR TRAVERSE

SOUTHERN DIVISION
GEOPHYSICAL SURVEY HERNDON ANNEX
ABB ENVIRONMENTAL SERVICES, INC.
FIGURE 1



CONTOUR INTERVAL:
10 GAMMAS PER METER

Scale 1:3600

250 0 250

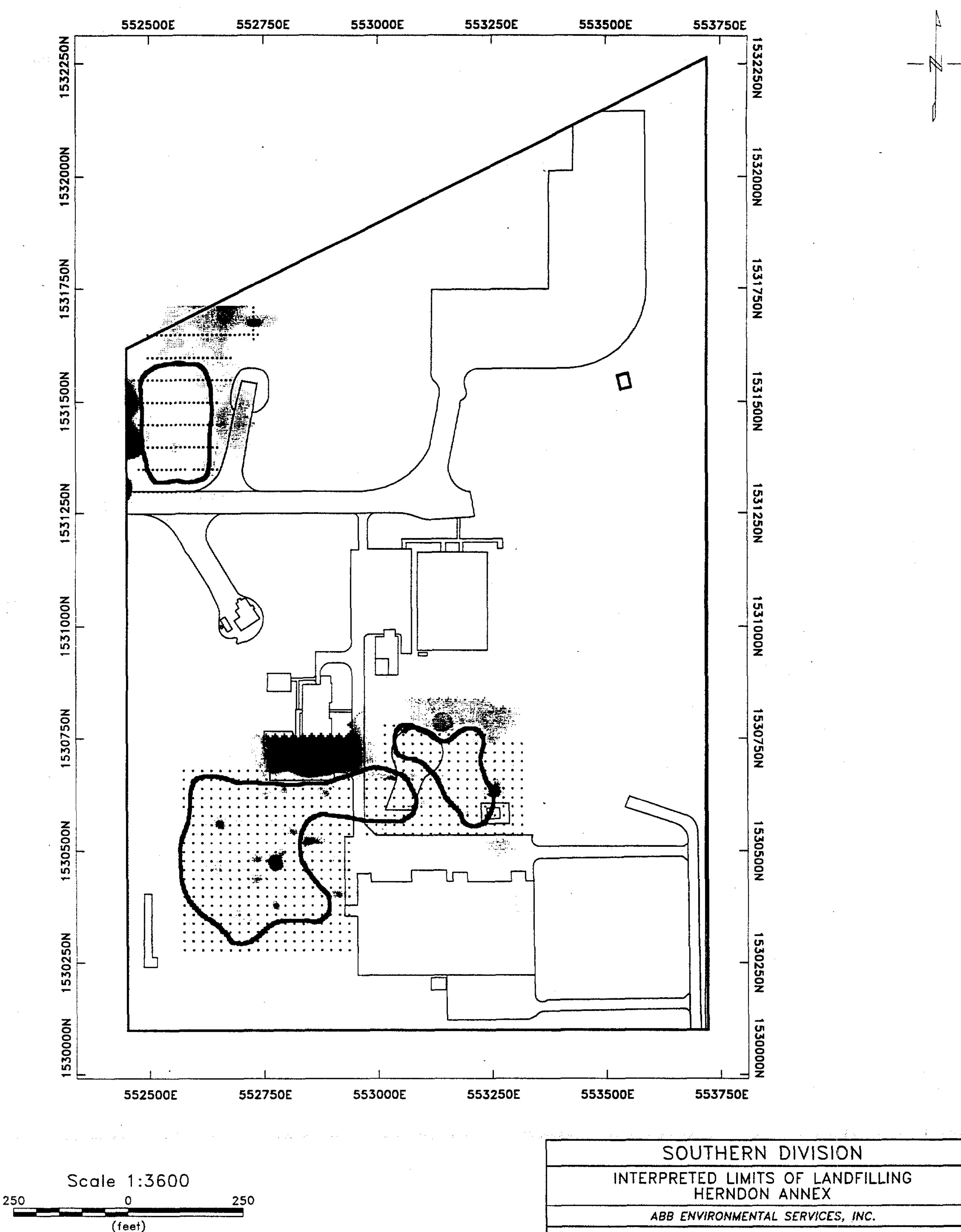
(feet)

SOUTHERN DIVISION

VERTICAL GRADIENT CONTOURS
HERNDON ANNEX

ABB ENVIRONMENTAL SERVICES, INC.

FIGURE 2



SOUTHERN DIVISION

INTERPRETED LIMITS OF LANDFILLING
HERNDON ANNEX

ABB ENVIRONMENTAL SERVICES, INC.

FIGURE 3

APPENDIX E

SUMMARY OF ANALYTICAL RESULTS, DIRECT-PUSH TECHNOLOGY GROUNDWATER SCREENING

TABLE E-1

SUMMARY OF DETECTIONS IN DPT GROUNDWATER ANALYTICAL RESULTS (CLP LABORATORY TCL ANALYSES)

Appendix E
Table E-1. Summary of Detections in DPT Groundwater Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	FDEPGCTL		Primary FEDMCL		RBC[2] for Tap Water		02P00102		02P00403		02P00501		02P00502		02P00503		02P00903		02Q10001		02Q10002	
Sampling Date							15-May-95		14-May-95		14-May-95		14-May-95		14-May-95		25-May-95		22-Jul-97		22-Jul-97	
Depth bls							45		64		15		41		61		58		33		43	
Volatile Organics, ug/L																						
1,1,2,2-Tetrachloroethane	0.5	c	ND		0.052	c																
1,2,4-Trimethylbenzene	10	o	ND		12	n													1.7		1.7	
1,2-Dichloroethane	3	p	5		0.12	c															8.61	
1,2-Dichloroethene (total)	63	st	70		0.044	c	3	J							2	J	3	J				
cis-1,2-Dichloroethene	70	st	70		61	n													8.69		17.1	
1,3,5-Trimethylbenzene	32	st	ND		12	n													0.66		0.54	
4-Isopropyltoluene	ND		ND		ND																	
Acetone	700	st	ND		3700	n	65				43		34				31					
Benzene	1	c	5		0.36	c	6	J							85		9	J	76.4	D	152	D
Carbon disulfide	700	st	ND		1000	n	8	J	19		66		72		190	D	2	J				
Ethylbenzene	30	st	700		1300	n	6	J							17				10.6		33.8	D
Isopropylbenzene	0.8	o	ND		ND														3.98		16.6	
Methylene chloride	5	p	5		4.1	c																
n-Propylbenzene	ND		ND		ND																	
Naphthalene	20	o	ND		1500	n																
sec-Butylbenzene	ND		ND		61	n																
Tetrachloroethene	3	p	5		1.1	c											13					
Toluene	40	st	1000		750	n													1.71		3.33	
Trichloroethene	3	p	5		1.6	c	4	J									5	J	3.2		6.62	
o-Xylene	20	st	10000		12000	n													18		55	D
m/p-Xylene	20	st	10000		12000	n													32		120	D
Xylene (total)	20	st	10000		12000	n									6	J			50	#	175	#

Appendix E

Table E-1. Summary of Detections in DPT Groundwater Analytical Results

Herndon Annex

Naval Training Center, Orlando

Orlando, FL

Sample ID	FDEPGCTL		Primary FEDMCL		RBC[2] for Tap Water		02Q10003		02Q10101		02Q10102		02Q10103		02Q10104		02Q10202		02Q10203		02Q10204	
Sampling Date							22-Jul-97		22-Jul-97		22-Jul-97		22-Jul-97		22-Jul-97		23-Jul-97		23-Jul-97		23-Jul-97	
Depth bls							53		33		43		48		53		40		46		53	
Volatile Organics, ug/L																						
1,1,2,2-Tetrachloroethane	0.5	c	ND		0.052	c																
1,2,4-Trimethylbenzene	10	o	ND		12	n	10.7						1.62		2.87							
1,2-Dichloroethane	3	p	5		0.12	c			1.67		3.57		7.5		2.75						6.05	
1,2-Dichloroethene (total)	63	st	70		0.044	c																
cis-1,2-Dichloroethene	70	st	70		61	n	7.13		0.94		5.13		13.6		3.1						5.28	
1,3,5-Trimethylbenzene	32	st	ND		12	n	7.81						0.56		1.14						1.62	
4-Isopropyltoluene	ND		ND		ND																	
Acetone	700	st	ND		3700	n																
Benzene	1	c	5		0.36	c	88.4	D	24.9	D	68.6	D	138	D	27.8	D					98.2	D
Carbon disulfide	700	st	ND		1000	n																
Ethylbenzene	30	st	700		1300	n	5.56		1.41		5.8		18.6		1.83						8.88	
Isopropylbenzene	0.8	o	ND		ND		12.8				1.84		11.5		3.78						0.85	
Methylene chloride	5	p	5		4.1	c											0.58					
n-Propylbenzene	ND		ND		ND		1.41															
Naphthalene	20	o	ND		1500	n					0.86		2.94								0.67	
sec-Butylbenzene	ND		ND		61	n																
Tetrachloroethene	3	p	5		1.1	c																
Toluene	40	st	1000		750	n					0.65		1.4						0.62			
Trichloroethene	3	p	5		1.6	c	1.52		0.52						0.71						1.4	
o-Xylene	20	st	10000		12000	n	0.5		2.4		12		23	D								
m/p-Xylene	20	st	10000		12000	n	5.5		6.1		27		54	D	2.5							
Xylene (total)	20	st	10000		12000	n	6	#	8.5	#	39	#	77	#	2.5	#						

Appendix E

Table E-1. Summary of Detections in DPT Groundwater Analytical Results

Herndon Annex

Naval Training Center, Orlando

Orlando, FL

Sample ID	FDEPGCTL		Primary FEDMCL	RBC[2] for Tap Water		02Q10301	02Q10302	02Q10303	02Q10304	02Q01303	02Q01402	02Q01403	02Q01903
Sampling Date						23-Jul-97	23-Jul-97	23-Jul-97	23-Jul-97	23-Oct-96	22-Oct-96	22-Oct-96	28-Oct-96
Depth bls						33	40	46	52	61	51	61	61
Volatile Organics, ug/L													
1,1,2,2-Tetrachloroethane	0.5	c	ND	0.052	c							2	
1,2,4-Trimethylbenzene	10	o	ND	12	n						4	18	
1,2-Dichloroethane	3	p	5	0.12	c			1.64	2.14				
1,2-Dichloroethene (total)	63	st	70	0.044	c								
cis-1,2-Dichloroethene	70	st	70	61	n			1.14	1.46				
1,3,5-Trimethylbenzene	32	st	ND	12	n			0.91	0.61		1	4	
4-Isopropyltoluene	ND		ND	ND									
Acetone	700	st	ND	3700	n								
Benzene	1	c	5	0.36	c		5.09	31.4 D	47.9 D				1
Carbon disulfide	700	st	ND	1000	n								
Ethylbenzene	30	st	700	1300	n				1.04				
Isopropylbenzene	0.8	o	ND	ND							2		
Methylene chloride	5	p	5	4.1	c								
n-Propylbenzene	ND		ND	ND									
Naphthalene	20	o	ND	1500	n	0.91						3	
sec-Butylbenzene	ND		ND	61	n								
Tetrachloroethene	3	p	5	1.1	c					5	2	2	
Toluene	40	st	1000	750	n								
Trichloroethene	3	p	5	1.6	c					4			
o-Xylene	20	st	10000	12000	n								
m/p-Xylene	20	st	10000	12000	n								
Xylene (total)	20	st	10000	12000	n								

Appendix E
Table E-1. Summary of Detections in DPT Groundwater Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	FDEPGCTL		Primary FEDMCL	RBC[2] for Tap Water		02Q02003	02Q02201	02Q02202	02Q02203	02Q02301	02Q02401	02Q02402	02Q02802
Sampling Date						29-Oct-96	29-Oct-96	29-Oct-96	29-Oct-96	29-Oct-96	30-Oct-96	30-Oct-96	31-Oct-96
Depth bls						61	41	51	61	51	46	56	61
Volatile Organics, ug/L													
1,1,2,2-Tetrachloroethane	0.5	c	ND	0.052	c		1					2	
1,2,4-Trimethylbenzene	10	o	ND	12	n		2						
1,2-Dichloroethane	3	p	5	0.12	c								
1,2-Dichloroethene (total)	63	st	70	0.044	c								
cis-1,2-Dichloroethene	70	st	70	61	n		23	4	14	16	1	1	1
1,3,5-Trimethylbenzene	32	st	ND	12	n		7	5		2			
4-Isopropyltoluene	ND		ND	ND									
Acetone	700	st	ND	3700	n								
Benzene	1	c	5	0.36	c	1	110	61	200	180	20	40	20
Carbon disulfide	700	st	ND	1000	n								
Ethylbenzene	30	st	700	1300	n		38	1		26		3	
Isopropylbenzene	0.8	o	ND	ND			23			26			
Methylene chloride	5	p	5	4.1	c								
n-Propylbenzene	ND		ND	ND									
Naphthalene	20	o	ND	1500	n								
sec-Butylbenzene	ND		ND	61	n								
Tetrachloroethene	3	p	5	1.1	c								
Toluene	40	st	1000	750	n		2		1				
Trichloroethene	3	p	5	1.6	c		2	3	4	4			
o-Xylene	20	st	10000	12000	n								
m/p-Xylene	20	st	10000	12000	n								
Xylene (total)	20	st	10000	12000	n		160					9	

Appendix E
Table E-1. Summary of Detections in DPT Groundwater Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	FDEPGCTL	Primary FEDMCL	RBC[2] for Tap Water	02Q02901	02Q10601	02Q10701	02Q10801	02Q10901	02Q11001	02Q11002	02Q11201
Sampling Date				31-Oct-96	29-Jul-97	29-Jul-97	29-Jul-97	29-Jul-97	24-Sep-97	24-Sep-97	11-Sep-97
Depth bls				49	3	3	3	3	23	53	24
Volatile Organics, ug/L											
1,1,2,2-Tetrachloroethane	0.5 c	ND	0.052 c	2							
1,2,4-Trimethylbenzene	10 o	ND	12 n						1.1		
1,2-Dichloroethane	3 p	5	0.12 c							1.05	
1,2-Dichloroethene (total)	63 st	70	0.044 c								
cis-1,2-Dichloroethene	70 st	70	61 n	1	1.49	3.14				0.83	3.06
1,3,5-Trimethylbenzene	32 st	ND	12 n								
4-Isopropyltoluene	ND	ND	ND								
Acetone	700 st	ND	3700 n								
Benzene	1 c	5	0.36 c	40	10.4	25.2 D				20.3	45.3 D
Carbon disulfide	700 st	ND	1000 n								
Ethylbenzene	30 st	700	1300 n	3							1.08
Isopropylbenzene	0.8 o	ND	ND								
Methylene chloride	5 p	5	4.1 c		0.82	0.85	0.96	1.01			
n-Propylbenzene	ND	ND	ND								
Naphthalene	20 o	ND	1500 n								
sec-Butylbenzene	ND	ND	61 n								
Tetrachloroethene	3 p	5	1.1 c								
Toluene	40 st	1000	750 n								
Trichloroethene	3 p	5	1.6 c								
o-Xylene	20 st	10000	12000 n								0.95
m/p-Xylene	20 st	10000	12000 n							0.78	2.7
Xylene (total)	20 st	10000	12000 n	9						0.78 #	3.65 #

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Table E-1. Summary of Detections in DPT Groundwater Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	FDEPGCTL		Primary FEDMCL		RBC[2] for Tap Water		02Q11203		02Q11301		02Q11302		02Q11303		02Q11304		02Q11403		02Q11404		02Q11504	
Sampling Date							11-Sep-97		11-Sep-97		11-Sep-97		11-Sep-97		11-Sep-97		12-Sep-97		12-Sep-97		12-Sep-97	
Depth bls							43		23		33		43		53		43		50		53	
Volatile Organics, ug/L																						
1,1,2,2-Tetrachloroethane	0.5	c	ND		0.052	c																
1,2,4-Trimethylbenzene	10	o	ND		12	n																
1,2-Dichloroethane	3	p	5		0.12	c							3.81									
1,2-Dichloroethene (total)	63	st	70		0.044	c																
cis-1,2-Dichloroethene	70	st	70		61	n							2.9		3.85		0.54					
1,3,5-Trimethylbenzene	32	st	ND		12	n																
4-Isopropyltoluene	ND		ND		ND																	
Acetone	700	st	ND		3700	n																
Benzene	1	c	5		0.36	c	0.6		2.26		18.3		66.3	D	74.3	D	44.7	D	11		6.23	
Carbon disulfide	700	st	ND		1000	n																
Ethylbenzene	30	st	700		1300	n					0.68		0.7									
Isopropylbenzene	0.8	o	ND		ND																	
Methylene chloride	5	p	5		4.1	c																
n-Propylbenzene	ND		ND		ND																	
Naphthalene	20	o	ND		1500	n																
sec-Butylbenzene	ND		ND		61	n																
Tetrachloroethene	3	p	5		1.1	c																
Toluene	40	st	1000		750	n													0.65			
Trichloroethene	3	p	5		1.6	c																
o-Xylene	20	st	10000		12000	n					1.3		0.7									
m/p-Xylene	20	st	10000		12000	n					3.1		2.2		0.69						1.7	
Xylene (total)	20	st	10000		12000	n					4.4	#	2.9	#	0.69	#					1.7	#

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Table E-1. Summary of Detections in DPT Groundwater Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	FDEPGCTL		Primary FEDMCL		RBC[2] for Tap Water		02Q11603		02Q11901		02Q11902		02Q11903		02Q11903D		02Q11904		02Q12001	
Sampling Date							15-Sep-97		16-Sep-97		16-Sep-97		16-Sep-97		16-Sep-97		16-Sep-97		17-Sep-97	
Depth bls							43		23		33		43		43		53		20	
Volatile Organics, ug/L																				
1,1,2,2-Tetrachloroethane	0.5	c	ND		0.052	c														
1,2,4-Trimethylbenzene	10	o	ND		12	n													1.48	
1,2-Dichloroethane	3	p	5		0.12	c					0.91		2.32		2.05		1.09			
1,2-Dichloroethene (total)	63	st	70		0.044	c														
cis-1,2-Dichloroethene	70	st	70		61	n					1.17		2.31		1.78		0.56			
1,3,5-Trimethylbenzene	32	st	ND		12	n														
4-Isopropyltoluene	ND		ND		ND															
Acetone	700	st	ND		3700	n														
Benzene	1	c	5		0.36	c	2.18		0.56		19.8		50.1	D	54.5	D	18.1	D	4.09	
Carbon disulfide	700	st	ND		1000	n														
Ethylbenzene	30	st	700		1300	n							2.45		1.18					
Isopropylbenzene	0.8	o	ND		ND															
Methylene chloride	5	p	5		4.1	c														
n-Propylbenzene	ND		ND		ND															
Naphthalene	20	o	ND		1500	n														
sec-Butylbenzene	ND		ND		61	n														
Tetrachloroethene	3	p	5		1.1	c														
Toluene	40	st	1000		750	n														
Trichloroethene	3	p	5		1.6	c													0.59	
o-Xylene	20	st	10000		12000	n														
m/p-Xylene	20	st	10000		12000	n							4.8		2.1		0.6			
Xylene (total)	20	st	10000		12000	n							4.8	#	2.1	#	0.6	#		

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Table E-1. Summary of Detections in DPT Groundwater Analytical Results

Herndon Annex

Naval Training Center, Orlando

Orlando, FL

Sample ID	FDEPGCTL		Primary FEDMCL		RBC[2] for Tap Water		02Q12002		02Q12003		02Q12004		02Q12101		02Q12102		02Q12103		02Q12104		02Q12201	
Sampling Date							17-Sep-97		17-Sep-97		17-Sep-97		17-Sep-97		17-Sep-97		17-Sep-97		17-Sep-97		18-Sep-97	
Depth bls							30		45		52		28		35		44		53		20	
Volatile Organics, ug/L																						
1,1,2,2-Tetrachloroethane	0.5	c	ND		0.052	c																
1,2,4-Trimethylbenzene	10	o	ND		12	n									0.8		14.3		5.6			
1,2-Dichloroethane	3	p	5		0.12	c									1.24		7.17		3.45			
1,2-Dichloroethene (total)	63	st	70		0.044	c																
cis-1,2-Dichloroethene	70	st	70		61	n	1.16						0.6		2.85		19.5		7.36			
1,3,5-Trimethylbenzene	32	st	ND		12	n											5.12		5.38			
4-Isopropyltoluene	ND		ND		ND																	
Acetone	700	st	ND		3700	n																
Benzene	1	c	5		0.36	c	1.59				1.96		6.06		29.5	D	140	D	75.2	D		
Carbon disulfide	700	st	ND		1000	n																
Ethylbenzene	30	st	700		1300	n											24	D	3.45			
Isopropylbenzene	0.8	o	ND		ND												20.8	D	7.97			
Methylene chloride	5	p	5		4.1	c					0.5										0.72	
n-Propylbenzene	ND		ND		ND												1.4		1.07			
Naphthalene	20	o	ND		1500	n																
sec-Butylbenzene	ND		ND		61	n																
Tetrachloroethene	3	p	5		1.1	c			0.54													
Toluene	40	st	1000		750	n									0.55		2.52					
Trichloroethene	3	p	5		1.6	c	0.63				0.6				0.63		4.99		0.85			
o-Xylene	20	st	10000		12000	n					0.62						37	D	3.2			
m/p-Xylene	20	st	10000		12000	n					1.4						77	D	7.5			
Xylene (total)	20	st	10000		12000	n					2.02	#					114	#	10.7	#		

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Table E-1. Summary of Detections in DPT Groundwater Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	FDEPGCTL		Primary FEDMCL		RBC[2] for Tap Water		02Q12202		02Q12203		02Q12302		02Q12303		02Q12304		02Q12401		02Q12401D	
Sampling Date							18-Sep-97		18-Sep-97		18-Sep-97		18-Sep-97		18-Sep-97		19-Sep-97		19-Sep-97	
Depth bls							33		46		30		40		50		58		58	
Volatile Organics, ug/L																				
1,1,2,2-Tetrachloroethane	0.5	c	ND		0.052	c														
1,2,4-Trimethylbenzene	10	o	ND		12	n	4.37		2.23		1.74		37.1	D	58.4	D	9.81		9.38	
1,2-Dichloroethane	3	p	5		0.12	c			1.62											
1,2-Dichloroethene (total)	63	st	70		0.044	c														
cis-1,2-Dichloroethene	70	st	70		61	n	1.32		2.06				2.09		2.01					
1,3,5-Trimethylbenzene	32	st	ND		12	n	1.92		7.06		0.64		18.6		32.9	D	6.81		6.24	
4-Isopropyltoluene	ND		ND		ND															
Acetone	700	st	ND		3700	n														
Benzene	1	c	5		0.36	c	15.1		34	D	0.9		9.16		3.77					
Carbon disulfide	700	st	ND		1000	n														
Ethylbenzene	30	st	700		1300	n							2.37		3.08					
Isopropylbenzene	0.8	o	ND		ND								2.08		14.8		3.15		2.82	
Methylene chloride	5	p	5		4.1	c	0.63													
n-Propylbenzene	ND		ND		ND								1.68		4.79		1.09		0.94	
Naphthalene	20	o	ND		1500	n			3.06				3.44		17.3		2.67		3.11	
sec-Butylbenzene	ND		ND		61	n									0.8		0.63			
Tetrachloroethene	3	p	5		1.1	c	0.92		0.71				3.69		2.42					
Toluene	40	st	1000		750	n														
Trichloroethene	3	p	5		1.6	c	1.17		3.82				4.44		2.37					
o-Xylene	20	st	10000		12000	n									0.61					
m/p-Xylene	20	st	10000		12000	n														
Xylene (total)	20	st	10000		12000	n									0.61	#				

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Table E-1. Summary of Detections in DPT Groundwater Analytical Results

Herndon Annex

Naval Training Center, Orlando

Orlando, FL

Sample ID	FDEPGCTL		Primary FEDMCL	RBC[2] for Tap Water		02Q12702	02Q12703	02Q12704	02Q12803	02Q12804	02Q12903	02Q12904	02Q13001
Sampling Date						22-Sep-97	22-Sep-97	22-Sep-97	22-Sep-97	22-Sep-97	23-Sep-97	23-Sep-97	23-Sep-97
Depth bls						33	43	53	36	44	43	56	23
Volatile Organics, ug/L													
1,1,2,2-Tetrachloroethane	0.5	c	ND	0.052	c								
1,2,4-Trimethylbenzene	10	o	ND	12	n								
1,2-Dichloroethane	3	p	5	0.12	c		3.96	1.96					
1,2-Dichloroethene (total)	63	st	70	0.044	c								
cis-1,2-Dichloroethene	70	st	70	61	n		9.2	2.15					
1,3,5-Trimethylbenzene	32	st	ND	12	n								
4-Isopropyltoluene	ND		ND	ND									0.92
Acetone	700	st	ND	3700	n								
Benzene	1	c	5	0.36	c	0.62	110 D	41.7 D					
Carbon disulfide	700	st	ND	1000	n								
Ethylbenzene	30	st	700	1300	n		0.59	0.5					
Isopropylbenzene	0.8	o	ND	ND									
Methylene chloride	5	p	5	4.1	c				0.62		0.52	0.59	
n-Propylbenzene	ND		ND	ND									
Naphthalene	20	o	ND	1500	n				11.6	2.09			26.7 D
sec-Butylbenzene	ND		ND	61	n								
Tetrachloroethene	3	p	5	1.1	c								
Toluene	40	st	1000	750	n								0.81
Trichloroethene	3	p	5	1.6	c								
o-Xylene	20	st	10000	12000	n								
m/p-Xylene	20	st	10000	12000	n			0.68					
Xylene (total)	20	st	10000	12000	n			0.68 #					

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Table E-1. Summary of Detections in DPT Groundwater Analytical Results

Herndon Annex

Naval Training Center, Orlando

Orlando, FL

Sample ID	FDEPGCTL		Primary FEDMCL		RBC[2] for Tap Water		02Q13002		02Q13003		02Q13004	
Sampling Date							23-Sep-97		23-Sep-97		23-Sep-97	
Depth bls							35		45		58	
Volatile Organics, ug/L												
1,1,2,2-Tetrachloroethane	0.5	c	ND		0.052	c						
1,2,4-Trimethylbenzene	10	o	ND		12	n						
1,2-Dichloroethane	3	p	5		0.12	c					3.25	
1,2-Dichloroethene (total)	63	st	70		0.044	c						
cis-1,2-Dichloroethene	70	st	70		61	n					2.94	
1,3,5-Trimethylbenzene	32	st	ND		12	n					4.79	
4-Isopropyltoluene	ND		ND		ND							
Acetone	700	st	ND		3700	n						
Benzene	1	c	5		0.36	c	3.31		11.7		67	D
Carbon disulfide	700	st	ND		1000	n						
Ethylbenzene	30	st	700		1300	n					0.95	
Isopropylbenzene	0.8	o	ND		ND							
Methylene chloride	5	p	5		4.1	c			0.57			
n-Propylbenzene	ND		ND		ND							
Naphthalene	20	o	ND		1500	n	5.46					
sec-Butylbenzene	ND		ND		61	n						
Tetrachloroethene	3	p	5		1.1	c					0.6	
Toluene	40	st	1000		750	n					2.09	
Trichloroethene	3	p	5		1.6	c					1.5	
o-Xylene	20	st	10000		12000	n						
m/p-Xylene	20	st	10000		12000	n			0.96			
Xylene (total)	20	st	10000		12000	n			0.96	#		

Appendix E
Table E-1. Notes for Summary of Detections in
DPT Groundwater Analytical Results
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

NOTES:

[1] Groundwater background screening value is twice the average of detected concentrations for inorganic analytes.

[2] RBC = Risk-Based Concentration Table, USEPA Region III, May 1996, R.L. Smith. RBC for chromium is based on chromium VI. RBC for lead is not available, value is treatment technology action limit for lead in drinking water distribution system identified in Drinking Water Standards and Health Advisories (USEPA, 1995). For essential nutrients (calcium, magnesium, potassium, and sodium) screening values were derived based on recommended daily allowances (RDAs).
Value for copper is a treatment level.

p = Primary Standard
s = Secondary Standard.
st = Systemic Toxicant
n = noncarcinogenic effects.
c = carcinogenic effects.
# = value indicated for total xylenes is sum of m/p-xylenes and o-xylenes as reported separately by the laboratory.
NA = Not analyzed.
ND = Not determined.
USEPA = U.S. Environmental Protection Agency.
FDEPGCTL = Florida Department of Environmental Protection, Groundwater Cleanup Target Levels, Chapter 62-785 FAC, April 30, 1998.
FEDMCL= Federal Maximum Contaminant Levels, Primary Drinking Water Regulations and Health Advisories, February 1996.
B = Reported concentration is between the instrument detection limit (IDL) and the contract required detection limit (CRDL).
The "B" qualifier typically changes to "J" (estimated concentration) upon data validation.
J = Reported concentration is an estimated quantity.
D = Reported concentration is from a diluted reanalysis of the sample.
ug/l = micrograms per liter.
mg/l = miligrams per liter.
Bold/shaded numbers indicate exceedance of groundwater guidance.
Blank space indicates analyte/compound was not detected at the reporting limit.

TABLE E-2

SUMMARY OF DETECTIONS IN DPT GROUNDWATER ANALYTICAL RESULTS (FIELD GAS CHROMATOGRAPH VOLATILES ANALYSES)

Appendix E

Table E-2. Summary of Detections in DPT Groundwater Analytical Results
(Field GC Volatiles Analyses)
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	FDEPGCTL		Primary FEDMCL	RBC[2] for Tap Water		02P00101	02P00102	02P00103	02P00201	02P00202	02P00203	02P00301	02P00401
Sampling Date						15-May-95	15-May-95	15-May-95	15-May-95	15-May-95	15-May-95	16-May-95	13-May-95
Depth bls						34	45	56	17	41	59	18	19
Volatile Organics, ug/L													
1,2-Dichloroethane	3	p	5	0.12	c								
Benzene	1	p	5	0.36	c	4.3	48	3.2			7.4		
Ethylbenzene	30	st	700	1300	n		2.6						0.2
Isopropylbenzene	0.8	o	ND	ND									
Tetrachloroethene	3	p	5	1.1	c			2.7			0.1		0.8
Toluene	40	st	1000	750	n								0.5
Trichloroethene	3	p	5	1.6	c								
o-Xylene	20	st	10000	12000	n								
m/p-Xylene	20	st	10000	12000	n		0.5						0.4

Appendix E
Table E-2. Summary of Detections in DPT Groundwater Analytical Results
(Field GC Volatiles Analyses)
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	FDEPGCTL		Primary FEDMCL	RBC[2] for Tap Water		02P00402	02P00403	02P00501	02P00502	02P00503	02P00601	02P00602	02P00603
Sampling Date						14-May-95	14-May-95	14-May-95	14-May-95	14-May-95	16-May-95	16-May-95	16-May-95
Depth bls						41	64	15	41	61	17	27	57
Volatile Organics, ug/L													
1,2-Dichloroethane	3	p	5	0.12	c								
Benzene	1	p	5	0.36	c								5
Ethylbenzene	30	st	700	1300	n					2.8			0.1
Isopropylbenzene	0.8	o	ND	ND									
Tetrachloroethene	3	p	5	1.1	c								
Toluene	40	st	1000	750	n					0.2			0.1
Trichloroethene	3	p	5	1.6	c								
o-Xylene	20	st	10000	12000	n		2.1	1					0.2
m/p-Xylene	20	st	10000	12000	n					0.1			

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Table E-2. Summary of Detections in DPT Groundwater Analytical Results
(Field GC Volatiles Analyses)
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	FDEPGCTL		Primary FEDMCL	RBC[2] for Tap Water		02P00701	02P00702	02P00801	02P00802	02P00901	02P00902	02P00903	02P010
Sampling Date						14-May-95	15-May-95	25-May-95	25-May-95	25-May-95	25-May-95	25-May-95	23-May-95
Depth bls						24	57	33	49	29	39	58	(no sample)
Volatile Organics, ug/L													
1,2-Dichloroethane	3	p	5	0.12	c		1						
Benzene	1	p	5	0.36	c		0.5		61			64	
Ethylbenzene	30	st	700	1300	n	0.8	3.6					0.2	
Isopropylbenzene	0.8	o	ND	ND									
Tetrachloroethene	3	p	5	1.1	c		10					10	
Toluene	40	st	1000	750	n		0.1					1.4	
Trichloroethene	3	p	5	1.6	c								
o-Xylene	20	st	10000	12000	n	0.4	3						
m/p-Xylene	20	st	10000	12000	n								

Appendix E

Table E-2. Summary of Detections in DPT Groundwater Analytical Results

(Field GC Volatiles Analyses)

Herndon Annex

Naval Training Center, Orlando

Orlando, FL

Sample ID	FDEPGCTL		Primary FEDMCL		RBC[2] for Tap Water		02P01101	02P01102	02P01103	02P01201	02P01202	02P01203
Sampling Date							24-May-95	24-May-95	24-May-95	24-May-95	24-May-95	24-May-95
Depth bls							23	44	61	26	43	54
Volatile Organics, ug/L												
1,2-Dichloroethane	3	p	5		0.12	c						
Benzene	1	p	5		0.36	c	1					
Ethylbenzene	30	st	700		1300	n						
Isopropylbenzene	0.8	o	ND		ND							
Tetrachloroethene	3	p	5		1.1	c	0.4					
Toluene	40	st	1000		750	n						
Trichloroethene	3	p	5		1.6	c						
o-Xylene	20	st	10000		12000	n						
m/p-Xylene	20	st	10000		12000	n						

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Table E-2. Notes for Summary of Detections in DPT Groundwater Analytical Results Herndon Annex

Naval Training Center, Orlando
Orlando, FL

NOTES:

[1] Groundwater background screening value is twice the average of detected concentrations for inorganic analytes.

[2] RBC = Risk-Based Concentration Table, USEPA Region III, May 1996, R.L. Smith. RBC for chromium is based on chromium VI. RBC for lead is not available, value is treatment technology action limit for lead in drinking water distribution system identified in Drinking Water Standards and Health Advisories (USEPA, 1995). For essential nutrients (calcium, magnesium, potassium, and sodium) screening values were derived based on recommended daily allowances (RDAs).
Value for copper is a treatment level.

p = Primary Standard
s = Secondary Standard.
st = Systemic Toxicant
n = noncarcinogenic effects.
c = carcinogenic effects.
# = value indicated for total xylenes is sum of m/p-xylenes and o-xylenes as reported separately by the laboratory.
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ND = Not determined.
USEPA = U.S. Environmental Protection Agency.
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FEDMCL= Federal Maximum Contaminant Levels, Primary Drinking Water Regulations and Health Advisories, February 1996.
B = Reported concentration is between the instrument detection limit (IDL) and the contract required detection limit (CRDL).
The "B" qualifier typically changes to "J" (estimated concentration) upon data validation.
J = Reported concentration is an estimated quantity.
D = Reported concentration is from a diluted reanalysis of the sample.
ug/l = micrograms per liter.
mg/l = miligrams per liter.
Bold/shaded numbers indicate exceedance of groundwater guidance.
Blank space indicates analyte/compound was not detected at the reporting limit.

TABLE E-3

SUMMARY OF DPT GROUNDWATER ANALYTICAL RESULTS, PHASE II AND III SAMPLES

Appendix E

Table E-3. Summary of DPT Groundwater Analytical Results, Phases II and III

Herndon Annex

Naval Training Center, Orlando

Orlando, FL

Sample ID	02P00102	02P00403	02P00501	02P00502	02P00503	02P00903	02Q01301	02Q01302	02Q01303	02Q01401	02Q01402	02Q01403	02Q01501
Lab ID	G7609001	G7563001	G7563002	G7563003	G7563004	G7680001	1565012	1565013	1565014	1565009	1565010	1565011	1575002
Sampling Date	15-May-95	14-May-95	14-May-95	14-May-95	14-May-95	25-May-95	23-Oct-96	23-Oct-96	23-Oct-96	22-Oct-96	22-Oct-96	22-Oct-96	23-Oct-96
Volatile Organics, ug/L													
1,1,1,2-Tetrachloroethane	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	10 U	10 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	2	1 U
1,1,2-Trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	4	18	1 U
1,2-Dibromo-3-chloropropane	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1	4	1 U
1,2-Dichloroethene (total)	3 J	10 U	10 U	10 U	2 J	3 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	10 U	10 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropane	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2,2-Dichloropropane	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	10 U	10 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Chlorotoluene	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone	10 U	10 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Chlorotoluene	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Isopropyltoluene	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Acetone	65	10 U	43	34	10 U	31	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	6 J	10 U	10 U	10 U	85	9 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromobenzene	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromochloromethane	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	10 U	10 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

Appendix E

Table E-3. Summary of DPT Groundwater Analytical Results, Phases II and III

Herndon Annex

Naval Training Center, Orlando

Orlando, FL

Sample ID	02P00102	02P00403	02P00501	02P00502	02P00503	02P00903	02Q01301	02Q01302	02Q01303	02Q01401	02Q01402	02Q01403	02Q01501
Lab ID	G7609001	G7563001	G7563002	G7563003	G7563004	G7680001	1565012	1565013	1565014	1565009	1565010	1565011	1575002
Sampling Date	15-May-95	14-May-95	14-May-95	14-May-95	14-May-95	25-May-95	23-Oct-96	23-Oct-96	23-Oct-96	22-Oct-96	22-Oct-96	22-Oct-96	23-Oct-96
Bromomethane	10 U	10 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon disulfide	8 J	19	66	72	190 D	2 J	NQ	NQ	NQ	NQ	NQ	NQ	NQ
Carbon tetrachloride	10 U	10 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	10 U	10 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	10 U	10 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	10 U	10 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	2	1 U	1 U
cis-1,3-Dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromomethane	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	3	1 U
Ethylbenzene	6 J	10 U	10 U	10 U	17	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	10 U	10 U	10 U	10 U	10 U	10 U	1 U	1 U	5	1 U	2	2	1 U
n-Butylbenzene	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Naphthalene	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
sec-Butylbenzene	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	4	1 U	1 U	1 U	1 U
Styrene	10 U	10 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	NQ	NQ	NQ	NQ	NQ	NQ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U	13	NQ	NQ	NQ	NQ	NQ	NQ	NQ
Toluene	10 U	10 U	10 U	10 U	10 U	10 U	NQ	NQ	NQ	NQ	NQ	NQ	NQ
trans-1,3-Dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Trichloroethene	4 J	10 U	10 U	10 U	10 U	5 J							
Trichlorofluoromethane	NQ	NQ	NQ	NQ	NQ	NQ							
Vinyl chloride	10 U	10 U	10 U	10 U	10 U	10 U							
o-Xylene	NQ	NQ	NQ	NQ	NQ	NQ							
m/p-Xylene	NQ	NQ	NQ	NQ	NQ	NQ							
Xylene (total)	10 U	10 U	10 U	10 U	6 J	10 U							

Appendix E

Table E-3. Summary of DPT Groundwater Analytical Results, Phases II and III

Herndon Annex

Naval Training Center, Orlando

Orlando, FL

Sample ID	02Q01502		02Q01503		02Q01601		02Q01601		02Q01602		02Q01603		02Q01701		02Q01702		02Q01703		02Q01801		02Q01802		02Q01901		02Q01902	
Lab ID	1575003		1575004		1575005		1575006		1575007		1575008		1581002		1581003		1581004		1582001		1582002		1606002		1606003	
Sampling Date	23-Oct-96		23-Oct-96		24-Oct-96		24-Oct-96		24-Oct-96		24-Oct-96		24-Oct-96		25-Oct-96		25-Oct-96		25-Oct-96		25-Oct-96		28-Oct-96		28-Oct-96	
Volatile Organics, ug/L																										
1,1,1,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1-Dichloropropene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichlorobenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2,4-Trichlorobenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2,4-Trimethylbenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethene (total)	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,3,5-Trimethylbenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
2,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
2-Butanone	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
2-Chlorotoluene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
2-Hexanone	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
4-Chlorotoluene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
4-Isopropyltoluene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Acetone	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Benzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Bromobenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Bromochloromethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U

Appendix E
Table E-3. Summary of DPT Groundwater Analytical Results, Phases II and III
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02Q01502		02Q01503		02Q01601		02Q01601		02Q01602		02Q01603		02Q01701		02Q01702		02Q01703		02Q01801		02Q01802		02Q01901		02Q01902	
Lab ID	1575003		1575004		1575005		1575006		1575007		1575008		1581002		1581003		1581004		1582001		1582002		1606002		1606003	
Sampling Date	23-Oct-96		23-Oct-96		24-Oct-96		24-Oct-96		24-Oct-96		24-Oct-96		24-Oct-96		25-Oct-96		25-Oct-96		25-Oct-96		25-Oct-96		28-Oct-96		28-Oct-96	
Bromomethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Carbon disulfide	NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ	
Carbon tetrachloride	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Chloroform	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Dibromomethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Ethylbenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Hexachlorobutadiene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Isopropylbenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methylene chloride	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
n-Butylbenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
n-Propylbenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Naphthalene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
sec-Butylbenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
tert-Butylbenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Tetrachloroethene	NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ	
Toluene	NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ	
trans-1,3-Dichloropropene	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U
Trichloroethene																										
Trichlorofluoromethane																										
Vinyl chloride																										
o-Xylene																										
m/p-Xylene																										
Xylene (total)																										

Appendix E

Table E-3. Summary of DPT Groundwater Analytical Results, Phases II and III
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02Q01902	02Q01903	02Q02001	02Q02002	02Q02003	02Q02201	02Q02202	02Q02203	02Q02301	02Q02401	02Q02402	02Q02701	02Q02801
Lab ID	1606004	1606005	1606006	1606007	1606008	1617002	1617003	1617004	1617005	1629002	1629005	1629006	1629007
Sampling Date	28-Oct-96	28-Oct-96	28-Oct-96	29-Oct-96	29-Oct-96	29-Oct-96	29-Oct-96	29-Oct-96	29-Oct-96	30-Oct-96	30-Oct-96	30-Oct-96	31-Oct-96
Volatile Organics, ug/L													
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U	2	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	1 U	1 U	1 U	1 U	1 U	2	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	7	5	1 U	2	1 U	1 U	1 U	1 U
1,2-Dichloroethene (total)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	1 U	1	1 U	1 U	1	110	61	200	180	20	40	1 U	1 U
2-Chlorotoluene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Chlorotoluene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Isopropyltoluene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Acetone	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	1 U	1 U	1 U	1 U	1 U	23	4	14	16	1	1	1 U	1 U

Appendix E
Table E-3. Summary of DPT Groundwater Analytical Results, Phases II and III
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02Q01902	02Q01903	02Q02001	02Q02002	02Q02003	02Q02201	02Q02202	02Q02203	02Q02301	02Q02401	02Q02402	02Q02701	02Q02801
Lab ID	1606004	1606005	1606006	1606007	1606008	1617002	1617003	1617004	1617005	1629002	1629005	1629006	1629007
Sampling Date	28-Oct-96	28-Oct-96	28-Oct-96	29-Oct-96	29-Oct-96	29-Oct-96	29-Oct-96	29-Oct-96	29-Oct-96	30-Oct-96	30-Oct-96	30-Oct-96	31-Oct-96
Bromomethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon disulfide	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ
Carbon tetrachloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NQ	NQ	NQ	NQ
Chlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	1 U	1 U	1 U	1 U	1 U	38	1	1 U	26	1 U	3	1 U	1 U
Chloroform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	1 U	1 U	1 U	1 U	1 U	23	1 U	1 U	26	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromomethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Butylbenzene	1 U	1 U	1 U	1 U	1 U	2	1 U	1	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Naphthalene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
sec-Butylbenzene	1 U	1 U	1 U	1 U	1 U	2	3	4	4	1 U	1 U	1 U	1 U
Styrene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ
Toluene	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ
trans-1,3-Dichloropropene	3 U	3 U	3 U	3 U	3 U	160	3 U	3 U	3 U	3 U	9	3 U	3 U
Trichloroethene													
Trichlorofluoromethane													
Vinyl chloride													
o-Xylene													
m/p-Xylene													
Xylene (total)													

Appendix E
Table E-3. Summary of DPT Groundwater Analytical Results, Phases II and III
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02Q02801		02Q02802		02Q02901		02Q02902		02Q03001		02Q03002		02Q03003		02Q03003D	
Lab ID	1629008		1629009		1629010		1629011		1565001		1565002		1565005		1565006	
Sampling Date	31-Oct-96		31-Oct-96		31-Oct-96		31-Oct-96		22-Oct-96		22-Oct-96		22-Oct-96		22-Oct-96	
Volatile Organics, ug/L																
1,1,1,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	2		1	U	1	U	1	U	1	U	1	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1-Dichloropropene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichlorobenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2,4-Trichlorobenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2,4-Trimethylbenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethene (total)	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,3,5-Trimethylbenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
2,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
2-Butanone	1	U	20		40		1	U	1	U	1	U	1	U	1	U
2-Chlorotoluene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
2-Hexanone	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
4-Chlorotoluene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
4-Isopropyltoluene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Acetone	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Benzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Bromobenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Bromochloromethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1		1		1	U	1	U	1	U	1	U	1	U

Appendix E

Table E-3. Summary of DPT Groundwater Analytical Results, Phases II and III

Herndon Annex

Naval Training Center, Orlando

Orlando, FL

Sample ID	02Q02801		02Q02802		02Q02901		02Q02902		02Q03001		02Q03002		02Q03003		02Q03003D	
Lab ID	1629008		1629009		1629010		1629011		1565001		1565002		1565005		1565006	
Sampling Date	31-Oct-96		31-Oct-96		31-Oct-96		31-Oct-96		22-Oct-96		22-Oct-96		22-Oct-96		22-Oct-96	
Bromomethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Carbon disulfide	NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ	
Carbon tetrachloride	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	3		1	U	1	U	1	U	1	U	1	U
Chloroform	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Dibromomethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Ethylbenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Hexachlorobutadiene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Isopropylbenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methylene chloride	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
n-Butylbenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
n-Propylbenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Naphthalene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
sec-Butylbenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
tert-Butylbenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Tetrachloroethene	NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ	
Toluene	NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ	
trans-1,3-Dichloropropene	3	U	3	U	9		3	U	3	U	3	U	3	U	3	U
Trichloroethene																
Trichlorofluoromethane																
Vinyl chloride																
o-Xylene																
m/p-Xylene																
Xylene (total)																

TABLE E-4

SUMMARY OF DPT GROUNDWATER ANALYTICAL RESULTS, PHASE IV SAMPLES

Appendix E

Table E-4. Summary of DPT Groundwater Analytical Results, Phase IV
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02Q10001		02Q10002		02Q10003		02Q10101		02Q10102		02Q10103		02Q10104		02Q10201		02Q10202		02Q10203		02Q10204		02Q10301		02Q10302	
Lab ID	OTCW1*2		OTCW1*3		OTCW1*4		OTCW1*5		OTCW1*6		OTCW1*7		OTCW1*8		OTCW1*14		OTCW1*15		OTCW1*16		OTCW1*17		OTCW1*11		OTCW1*12	
Sampling Date	22-Jul-97		22-Jul-97		22-Jul-97		22-Jul-97		22-Jul-97		22-Jul-97		22-Jul-97		23-Jul-97		23-Jul-97		23-Jul-97		23-Jul-97		23-Jul-97		23-Jul-97	
Volatile Organics, ug/L																										
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trimethylbenzene	1.7		1.7		10.7		0.5	U	0.5	U	1.62		2.87		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromo-3-chloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromoethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	8.61		0.5	U	1.67		3.57		7.5		2.75		0.5	U	0.5	U	0.5	U	6.05		0.5	U	0.5	U
1,2-Dichloropropane	8.69		17.1		7.13		0.94		5.13		13.6		3.1		0.5	U	0.5	U	0.5	U	5.28		0.5	U	0.5	U
1,3,5-Trimethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichlorobenzene		*		*		*		*		*		*		*		*		*		*		*		*		*
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	0.66		0.54		7.81		0.5	U	0.5	U	0.56		1.14		0.5	U	0.5	U	0.5	U	1.62		0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
4-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
4-Isopropyltoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ	
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromochloromethane	NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ	
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ	
Carbon tetrachloride	NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ	
Chlorobenzene	76.4	D	152	D	88.4	D	24.9	D	68.6	D	138	D	27.8	D	0.5	U	0.5	U	0.5	U	98.2	D	0.5	U	5.09	
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Appendix E
Table E-4. Summary of DPT Groundwater Analytical Results, Phase IV
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02Q10001		02Q10002		02Q10003		02Q10101		02Q10102		02Q10103		02Q10104		02Q10201		02Q10202		02Q10203		02Q10204		02Q10301		02Q10302	
Lab ID	OTCW1*2		OTCW1*3		OTCW1*4		OTCW1*5		OTCW1*6		OTCW1*7		OTCW1*8		OTCW1*14		OTCW1*15		OTCW1*16		OTCW1*17		OTCW1*11		OTCW1*12	
Sampling Date	22-Jul-97		22-Jul-97		22-Jul-97		22-Jul-97		22-Jul-97		22-Jul-97		22-Jul-97		23-Jul-97		23-Jul-97		23-Jul-97		23-Jul-97		23-Jul-97		23-Jul-97	
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ		NQ	
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Isopropylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	10.6		33.8	D	5.56		1.41		5.8		18.6		1.83		0.5	U	0.5	U	0.5	U	8.88		0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	3.98		16.6		12.8		0.5	U	1.84		11.5		3.78		0.5	U	0.5	U	0.5	U	0.85		0.5	U	0.5	U
Tetrachloroethene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.58		0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,2-Dichloroethene	0.5	U	0.5	U	1.41		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.86		2.94		0.5	U	0.5	U	0.5	U	0.5	U	0.67		0.91		0.5	U
Trichloroethene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p-Xylene	1.71		3.33		0.5	U	0.5	U	0.65		1.4		0.5	U	0.5	U	0.5	U	0.62		0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
	3.2		6.62		1.52		0.52		0.5	U	0.5	U	0.71		0.5	U	0.5	U	0.5	U	1.4		0.5	U	0.5	U
	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
	18		55	D	0.5		2.4		12		23	D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
	32		120	D	5.5		6.1		27		54	D	2.5		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
		*		*		*		*		*		*		*		*		*		*		*		*		*

Appendix E

Table E-4. Summary of DPT Groundwater Analytical Results, Phase IV
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02Q10303	02Q10304	02Q10401	02Q10402	02Q10402	02Q10403	02Q10403	02Q10404	02Q10501	02Q10501	02Q10502	02Q10503	02Q10504
Lab ID	OTCW1*13	OTCW1*18	OTCW1*20	OTCW1*21	OTCW1*22	OTCW1*23	OTCW1*24	OTCW1*25	OTCW1*26	OTCW1*27	OTCW1*28	OTCW1*29	OTCW1*30
Sampling Date	23-Jul-97	23-Jul-97	24-Jul-97	24-Jul-97	24-Jul-97	24-Jul-97	24-Jul-97	24-Jul-97	24-Jul-97	24-Jul-97	24-Jul-97	24-Jul-97	24-Jul-97
Volatile Organics, ug/L													
1,1,1,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromoethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	1.64	2.14	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	1.14	1.46	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	*	*	*	*	*	*	*	*	*	*	*	*	*
1,3-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	0.91	0.61	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Chlorotoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Chlorotoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Isopropyltoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ
Bromobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ
Carbon tetrachloride	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ
Chlorobenzene	31.4 D	47.9 D	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Appendix E
Table E-4. Summary of DPT Groundwater Analytical Results, Phase IV
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02Q10303	02Q10304	02Q10401	02Q10402	02Q10402	02Q10403	02Q10403	02Q10404	02Q10501	02Q10501	02Q10502	02Q10503	02Q10504
Lab ID	OTCW1*13	OTCW1*18	OTCW1*20	OTCW1*21	OTCW1*22	OTCW1*23	OTCW1*24	OTCW1*25	OTCW1*26	OTCW1*27	OTCW1*28	OTCW1*29	OTCW1*30
Sampling Date	23-Jul-97	23-Jul-97	24-Jul-97	24-Jul-97	24-Jul-97	24-Jul-97	24-Jul-97	24-Jul-97	24-Jul-97	24-Jul-97	24-Jul-97	24-Jul-97	24-Jul-97
cis-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ
Dibromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Isopropylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylene chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Butylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Propylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Naphthalene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
sec-Butylbenzene	0.5 U	1.04	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
tert-Butylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichlorofluoromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m/p-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Xylene (total)	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	*	*	*	*	*	*	*	*	*	*	*	*	*

Appendix E

Table E-4. Summary of DPT Groundwater Analytical Results, Phase IV

Herndon Annex

Naval Training Center, Orlando

Orlando, FL

Sample ID	02Q10601	02Q10701	02Q10801	02Q10901	02Q11001	02Q11001	02Q11002	02Q11101	02Q11102	02Q11201	02Q11202	02Q11203	02Q11204
Lab ID	OTCW1*33	OTCW1*34	OTCW1*36	OTCW1*35	OTCW2*37	OTCW2*38	OTCW2*39	OTCW2*35	OTCW2*36	OTCW1*43	OTCW1*44	OTCW1*45	OTCW1*46
Sampling Date	29-Jul-97	29-Jul-97	29-Jul-97	29-Jul-97	24-Sep-97	24-Sep-97	24-Sep-97	24-Sep-97	24-Sep-97	11-Sep-97	11-Sep-97	11-Sep-97	11-Sep-97
Volatile Organics, ug/L													
1,1,1,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	1.1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromoethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.05	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Chlorotoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Chlorotoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Isopropyltoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	10.4	25.2 D	0.5 U	0.5 U	0.5 U	0.5 U	20.3	0.5 U	0.5 U	45.3 D	0.5 U	0.6	0.5 U
Bromobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	1.49	3.14	0.5 U	0.5 U	0.5 U	0.5 U	0.83	0.5 U	0.5 U	3.06	0.5 U	0.5 U	0.5 U

Appendix E

Table E-4. Summary of DPT Groundwater Analytical Results, Phase IV

Herndon Annex

Naval Training Center, Orlando

Orlando, FL

Sample ID	02Q10601		02Q10701		02Q10801		02Q10901		02Q11001		02Q11001		02Q11002		02Q11101		02Q11102		02Q11201		02Q11202		02Q11203		02Q11204	
Lab ID	OTCW1*33		OTCW1*34		OTCW1*36		OTCW1*35		OTCW2*37		OTCW2*38		OTCW2*39		OTCW2*35		OTCW2*36		OTCW1*43		OTCW1*44		OTCW1*45		OTCW1*46	
Sampling Date	29-Jul-97		29-Jul-97		29-Jul-97		29-Jul-97		24-Sep-97		24-Sep-97		24-Sep-97		24-Sep-97		24-Sep-97		11-Sep-97		11-Sep-97		11-Sep-97		11-Sep-97	
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1.08		0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Isopropylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.82		0.85		0.96		1.01		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,2-Dichloroethene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.95		0.5	U	0.5	U	0.5	U
m/p-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.78		0.5	U	0.5	U	2.7		0.5	U	0.5	U	0.5	U
Xylene (total)		*		*		*		*		*		*		*		*		*		*		*		*		*

Appendix E

Table E-4. Summary of DPT Groundwater Analytical Results, Phase IV

Herndon Annex

Naval Training Center, Orlando

Orlando, FL

Sample ID	02Q11301	02Q11302	02Q11303	02Q11304	02Q11401	02Q11401	02Q11402	02Q11403	02Q11404	02Q11501	02Q11502	02Q11503	02Q11504
Lab ID	OTCW1*47	OTCW1*50	OTCW1*51	OTCW1*52	OTCW1*53	OTCW1*54	OTCW1*55	OTCW1*56	OTCW1*57	OTCW1*58	OTCW1*59	OTCW1*61	OTCW1*62
Sampling Date	11-Sep-97	11-Sep-97	11-Sep-97	11-Sep-97	12-Sep-97	12-Sep-97	12-Sep-97	12-Sep-97	12-Sep-97	12-Sep-97	12-Sep-97	12-Sep-97	12-Sep-97
Volatile Organics, ug/L													
1,1,1,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromoethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.5 U	0.5 U	3.81	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Chlorotoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Chlorotoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Isopropyltoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	2.26	18.3	66.3 D	74.3 D	0.5 U	0.5 U	0.5 U	44.7 D	11	0.5 U	0.5 U	0.5 U	6.23
Bromobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	0.5 U	0.5 U	2.9	3.85	0.5 U	0.5 U	0.5 U	0.54	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Appendix E
Table E-4. Summary of DPT Groundwater Analytical Results, Phase IV
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02Q11301		02Q11302		02Q11303		02Q11304		02Q11401		02Q11401		02Q11402		02Q11403		02Q11404		02Q11501		02Q11502		02Q11503		02Q11504	
Lab ID	OTCW1*47		OTCW1*50		OTCW1*51		OTCW1*52		OTCW1*53		OTCW1*54		OTCW1*55		OTCW1*56		OTCW1*57		OTCW1*58		OTCW1*59		OTCW1*61		OTCW1*62	
Sampling Date	11-Sep-97		11-Sep-97		11-Sep-97		11-Sep-97		12-Sep-97		12-Sep-97		12-Sep-97		12-Sep-97		12-Sep-97		12-Sep-97		12-Sep-97		12-Sep-97		12-Sep-97	
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.68		0.7		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Isopropylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.65		0.5	U	0.5	U	0.5	U	0.5	U
trans-1,2-Dichloroethene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	1.3		0.7		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p-Xylene	0.5	U	3.1		2.2		0.69		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1.7	
Xylene (total)		*		*		*		*		*		*		*		*		*		*		*		*		*

Appendix E
Table E-4. Summary of DPT Groundwater Analytical Results, Phase IV
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02Q11601		02Q11601		02Q11602		02Q11603		02Q11604		02Q11701		02Q11702		02Q11703		02Q11703		02Q11704		02Q11801		02Q11802		02Q11803	
Lab ID	OTCW1*64		OTCW1*65		OTCW1*66		OTCW1*67		OTCW1*68		OTCW1*69		OTCW1*71		OTCW1*72		OTCW1*73		OTCW1*74		OTCW1*75		OTCW1*76		OTCW1*77	
Sampling Date	15-Sep-97		15-Sep-97		15-Sep-97		15-Sep-97		15-Sep-97		15-Sep-97		15-Sep-97		15-Sep-97		15-Sep-97		15-Sep-97		16-Sep-97		16-Sep-97		16-Sep-97	
Volatile Organics, ug/L																										
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trimethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromo-3-chloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromoethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3,5-Trimethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
4-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
4-Isopropyltoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	2.18		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Appendix E
Table E-4. Summary of DPT Groundwater Analytical Results, Phase IV
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02Q11601		02Q11601		02Q11602		02Q11603		02Q11604		02Q11701		02Q11702		02Q11703		02Q11703		02Q11704		02Q11801		02Q11802		02Q11803	
Lab ID	OTCW1*64		OTCW1*65		OTCW1*66		OTCW1*67		OTCW1*68		OTCW1*69		OTCW1*71		OTCW1*72		OTCW1*73		OTCW1*74		OTCW1*75		OTCW1*76		OTCW1*77	
Sampling Date	15-Sep-97		15-Sep-97		15-Sep-97		15-Sep-97		15-Sep-97		15-Sep-97		15-Sep-97		15-Sep-97		15-Sep-97		15-Sep-97		16-Sep-97		16-Sep-97		16-Sep-97	
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Isopropylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,2-Dichloroethene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)		*		*		*		*		*		*		*		*		*		*		*		*		*

Appendix E

Table E-4. Summary of DPT Groundwater Analytical Results, Phase IV

Herndon Annex

Naval Training Center, Orlando

Orlando, FL

Sample ID	02Q11804		02Q11901		02Q11902		02Q11903		02Q11903		02Q11904		02Q12001		02Q12002		02Q12003		02Q12004		02Q12101		02Q12102		02Q12103	
Lab ID	OTCW1*78		OTCW1*79		OTCW1*80		OTCW1*81		OTCW1*82		OTCW1*83		OTCW1*85		OTCW1*86		OTCW1*87		OTCW1*88		OTCW1*89		OTCW1*90		OTCW1*91	
Sampling Date	16-Sep-97		16-Sep-97		16-Sep-97		16-Sep-97		16-Sep-97		16-Sep-97		17-Sep-97		17-Sep-97		17-Sep-97		17-Sep-97		17-Sep-97		17-Sep-97		17-Sep-97	
Volatile Organics, ug/L																										
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trimethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1.48		0.5	U	0.5	U	0.5	U	0.5	U	0.8		14.3	
1,2-Dibromo-3-chloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromoethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.91		2.32		2.05		1.09		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1.24		7.17	
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3,5-Trimethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	5.12	
1,3-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
4-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
4-Isopropyltoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.56		19.6		50.1	D	54.5	D	18.1	D	4.09		1.59		0.5	U	1.96		6.06		29.5	D	140	D
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	0.5	U	0.5	U	1.17		2.31		1.78		0.56		0.5	U	1.16		0.5	U	0.5	U	0.6		2.85		19.5	

Appendix E
Table E-4. Summary of DPT Groundwater Analytical Results, Phase IV
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02Q11804	02Q11901	02Q11902	02Q11903	02Q11903	02Q11904	02Q12001	02Q12002	02Q12003	02Q12004	02Q12101	02Q12102	02Q12103
Lab ID	OTCW1*78	OTCW1*79	OTCW1*80	OTCW1*81	OTCW1*82	OTCW1*83	OTCW1*85	OTCW1*86	OTCW1*87	OTCW1*88	OTCW1*89	OTCW1*90	OTCW1*91
Sampling Date	16-Sep-97	16-Sep-97	16-Sep-97	16-Sep-97	16-Sep-97	16-Sep-97	17-Sep-97	17-Sep-97	17-Sep-97	17-Sep-97	17-Sep-97	17-Sep-97	17-Sep-97
cis-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	2.45	1.18	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	24 D
Hexachlorobutadiene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Isopropylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20.8 D
Methylene chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5	0.5 U	0.5 U	0.5 U
n-Butylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Propylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.4
Naphthalene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
sec-Butylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
tert-Butylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.54	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.55	2.52
trans-1,2-Dichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.59	0.63	0.5 U	0.6	0.5 U	0.63	4.99
Trichlorofluoromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.62	0.5 U	0.5 U	37 D
m/p-Xylene	0.5 U	0.5 U	0.5 U	4.8	2.1	0.6	0.5 U	0.5 U	0.5 U	1.4	0.5 U	0.5 U	77 D
Xylene (total)	*	*	*	*	*	*	*	*	*	*	*	*	*

Appendix E
Table E-4. Summary of DPT Groundwater Analytical Results, Phase IV
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02Q12104	02Q12201	02Q12202	02Q12203	02Q12301	02Q12302	02Q12303	02Q12304	02Q12401	02Q12401	02Q12501	02Q12701	02Q12702
Lab ID	OTCW1*92	OTCW2*1	OTCW2*2	OTCW2*4	OTCW2*6	OTCW2*7	OTCW2*8	OTCW2*9	OTCW2*10	OTCW2*11	OTCW2*12	OTCW2*14	OTCW2*15
Sampling Date	17-Sep-97	18-Sep-97	18-Sep-97	18-Sep-97	18-Sep-97	18-Sep-97	18-Sep-97	18-Sep-97	19-Sep-97	19-Sep-97	19-Sep-97	22-Sep-97	22-Sep-97
Volatile Organics, ug/L													
1,1,1,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	5.6	0.5 U	4.37	2.23	0.5 U	1.74	37.1 D	58.4 D	9.81	9.38	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromoethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	3.45	0.5 U	0.5 U	1.62	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene	5.38	0.5 U	1.92	7.06	0.5 U	0.64	18.6	32.9 D	6.81	6.24	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Chlorotoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Chlorotoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Isopropyltoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	75.2 D	0.5 U	15.1	34 D	0.5 U	0.9	9.16	3.77	0.5 U	0.5 U	0.5 U	0.5 U	0.62
Bromobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	7.36	0.5 U	1.32	2.06	0.5 U	0.5 U	2.09	2.01	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Appendix E

Table E-4. Summary of DPT Groundwater Analytical Results, Phase IV
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02Q12104	02Q12201	02Q12202	02Q12203	02Q12301	02Q12302	02Q12303	02Q12304	02Q12401	02Q12401	02Q12501	02Q12701	02Q12702
Lab ID	OTCW1*92	OTCW2*1	OTCW2*2	OTCW2*4	OTCW2*6	OTCW2*7	OTCW2*8	OTCW2*9	OTCW2*10	OTCW2*11	OTCW2*12	OTCW2*14	OTCW2*15
Sampling Date	17-Sep-97	18-Sep-97	18-Sep-97	18-Sep-97	18-Sep-97	18-Sep-97	18-Sep-97	18-Sep-97	19-Sep-97	19-Sep-97	19-Sep-97	22-Sep-97	22-Sep-97
cis-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	3.45	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.37	3.08	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Isopropylbenzene	7.97	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.08	14.8	3.15	2.82	0.5 U	0.5 U	0.5 U
Methylene chloride	0.5 U	0.72	0.63	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Butylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Propylbenzene	1.07	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.68	4.79	1.09	0.94	0.5 U	0.5 U	0.5 U
Naphthalene	0.5 U	0.5 U	0.5 U	3.06	0.5 U	0.5 U	3.44	17.3	2.67	3.11	0.5 U	0.5 U	0.5 U
sec-Butylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.8	0.63	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
tert-Butylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	0.5 U	0.5 U	0.92	0.71	0.5 U	0.5 U	3.69	2.42	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	0.85	0.5 U	1.17	3.82	0.5 U	0.5 U	4.44	2.37	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichlorofluoromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	3.2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.61	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m/p-Xylene	7.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Xylene (total)	*	*	*	*	*	*	*	*	*	*	*	*	*

Appendix E
Table E-4. Summary of DPT Groundwater Analytical Results, Phase IV
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02Q12703		02Q12704		02Q12801		02Q12801		02Q12802		02Q12803		02Q12804		02Q12901		02Q12902		02Q12903		02Q12904		02Q12904		02Q13001	
Lab ID	OTCW2*16		OTCW2*17		OTCW2*18		OTCW2*19		OTCW2*20		OTCW2*21		OTCW2*22		OTCW2*24		OTCW2*25		OTCW2*26		OTCW2*27		OTCW2*28		OTCW2*29	
Sampling Date	22-Sep-97		22-Sep-97		22-Sep-97		22-Sep-97		22-Sep-97		22-Sep-97		22-Sep-97		23-Sep-97		23-Sep-97		23-Sep-97		23-Sep-97		23-Sep-97		23-Sep-97	
Volatile Organics, ug/L																										
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trimethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromo-3-chloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromoethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	3.96		1.96		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3,5-Trimethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
4-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
4-Isopropyltoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.92	
Benzene	110	D	41.7	D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	9.2		2.15		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Appendix E
Table E-4. Summary of DPT Groundwater Analytical Results, Phase IV
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02Q12703		02Q12704		02Q12801		02Q12801		02Q12802		02Q12803		02Q12804		02Q12901		02Q12902		02Q12903		02Q12904		02Q12904		02Q13001	
Lab ID	OTCW2*16		OTCW2*17		OTCW2*18		OTCW2*19		OTCW2*20		OTCW2*21		OTCW2*22		OTCW2*24		OTCW2*25		OTCW2*26		OTCW2*27		OTCW2*28		OTCW2*29	
Sampling Date	22-Sep-97		22-Sep-97		22-Sep-97		22-Sep-97		22-Sep-97		22-Sep-97		22-Sep-97		23-Sep-97		23-Sep-97		23-Sep-97		23-Sep-97		23-Sep-97		23-Sep-97	
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.59		0.5		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Isopropylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.62		0.5	U	0.5	U	0.5	U	0.52		0.59		0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	11.6		2.09		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	26.7	D
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.81	
trans-1,2-Dichloroethene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p-Xylene	0.5	U	0.68		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)		*		*		*		*		*		*		*		*		*		*		*		*		*

Appendix E

Table E-4. Summary of DPT Groundwater Analytical Results, Phase IV
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02Q13002		02Q13003		02Q13004	
Lab ID	OTCW2*32		OTCW2*33		OTCW2*34	
Sampling Date	23-Sep-97		23-Sep-97		23-Sep-97	
Volatile Organics, ug/L						
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U
1,2,4-Trimethylbenzene	0.5	U	0.5	U	0.5	U
1,2-Dibromo-3-chloropropane	0.5	U	0.5	U	0.5	U
1,2-Dibromoethane	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	3.25	
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U
1,3,5-Trimethylbenzene	0.5	U	0.5	U	4.79	
1,3-Dichlorobenzene	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U
2-Chlorotoluene	0.5	U	0.5	U	0.5	U
4-Chlorotoluene	0.5	U	0.5	U	0.5	U
4-Isopropyltoluene	0.5	U	0.5	U	0.5	U
Benzene	3.31		11.7		67	D
Bromobenzene	0.5	U	0.5	U	0.5	U
Bromochloromethane	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U
Bromomethane	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U
Chloromethane	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	0.5	U	0.5	U	2.94	

Appendix E
Table E-4. Summary of DPT Groundwater Analytical Results, Phase IV
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Sample ID	02Q13002		02Q13003		02Q13004	
Lab ID	OTCW2*32		OTCW2*33		OTCW2*34	
Sampling Date	23-Sep-97		23-Sep-97		23-Sep-97	
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.95	
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U
Isopropylbenzene	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.57		0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U
Naphthalene	5.46		0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U
Tetrachloroethene	0.5	U	0.5	U	0.6	
Toluene	0.5	U	0.5	U	2.09	
trans-1,2-Dichloroethene	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U
Trichloroethene	0.5	U	0.5	U	1.5	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U
m/p-Xylene	0.5	U	0.96		0.5	U
Xylene (total)		*		*		*

Notes for Summary of Analytical Results Tables
Herndon Annex

Naval Training Center, Orlando
Orlando Florida

NA = Identified parameter not analyzed.
Sample ID = Sample Identifier
Lab ID = Laboratory identifier

Units:

mg/kg	milligram per kilogram
ug/kg	microgram per kilogram
mg/L	milligram per liter
ug/L	microgram per liter

NQ	Parameter not quantified or reported in Form 1s.
*	Parameter not reported or quantified in Form 1s but can be estimated by summing their respective isomers.

The following standard analytical data qualifiers have the following definitions:

U	The analyte/compound was analyzed for but was not detected above the reported sample quantitation limit The number preceding the U qualifier is the reported sample quantitation limit.
J	The analyte/compound was positively identified and the associated numerical value is an estimated concentration of the analyte/compound in the sample.
UJ	The analyte/compound was not detected above the reported sample quantitation limit. The reported quantitation limit, however, is approximate and may or may not represent the actual limit of quantitation necessary to accurately measure the analyte/compound in the sample.
R	The sample results are rejected during data validation because of serious deficiencies in meeting quality control criteria.

APPENDIX F

CONE PENETROMETER TESTING RESULTS

Phase II (1995)
Phase III (1996)
Phase IV (1997)

APPENDIX F

CONE PENETROMETER TESTING RESULTS
PHASE II (1995)

FUGRO GEOSCIENCES, INC.

6105 Rookin
Houston, Texas 77074
Tel: (713) 778-5580
Fax: (713) 778-5501

July 24, 1995
Report Number 0301-5052-2

ABB Environmental Services, Inc.
1536 Kinglsey Avenue, Suite 127
Orange Park, Florida 32073

Attention: Mr. Rick Allan

FINAL REPORT
CONE PENETROMETER TESTING
AND DPT SAMPLING SERVICES
NTC ORLANDO, FLORIDA
PRIME CONTRACT NO.: N62467-89-D-0317

Dear Mr. Allan:

Please find enclosed herewith the final results of the cone penetrometer tests conducted at the above referenced location.

For your information, the soil stratigraphy was identified using Campanella and Robertson's Simplified Soil Behavior Chart. Please note that because of the empirical nature of the soil behavior chart, the soil identification should be verified locally.

Fugro Geosciences appreciates the opportunity to be of service to your organization. If you should have any questions, or if we can be of further assistance, please do not hesitate to contact us. We look forward to working with you in the future.

Very truly yours,
FUGRO GEOSCIENCES, INC.

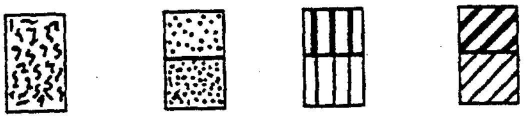
Recep Yilmaz
President

RY/ty

Key To Soil Classification and Symbols

SOIL TYPE
(Shown in Symbol Column)

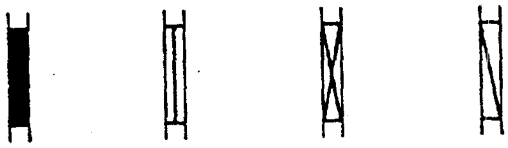
Sand Silt Clay



Fill Sandy Silty Clayey

Predominant Type Shown Heavy

SAMPLE TYPE
(Shown in Samples Column)



Undisturbed Rock Core Split Spoon No Recovery

TERMS DESCRIBING CONSISTENCY OR CONDITION

COARSE GRAINED SOILS (Major portion Retained on No. 200 Sieve)
Includes (1) clean gravels and sand described as fine, medium or course, depending on distribution of grain sizes (2) silty or clayey gravels and sands and (3) fine grained low plasticity soils (PI < 10) such as sandy silts. Condition is rated according to relative density, as determined by lab tests or estimated from resistance to sampler penetration.

Descriptive Term	Penetration Resistance*	Relative Density
Loose	0 - 10	0 to 40%
Medium Dense	10 - 30	40 to 70%
Dense	30 - 50	70 to 90%
Very Dense	Over 50	90 to 100%

* Blows/Foot, 140# Hammer, 30" Drop

FINE GRAINED SOILS (Major Portion Passing No. 200 Sieve)
Includes (1) inorganic and organic silts and clays, (2) sandy, gravelly or silty clays, and (3) clayey silts. Consistency is rated according to shearing strength, as indicated by penetrometer readings or by unconfined compression tests for soils with PI $\geq$ 10.

Descriptive Term	Cohesive Shear Strength Tons/Square Foot
Very Soft	Less Than 0.125
Soft	0.125 to 0.25
Firm	0.25 to 0.50
Stiff	0.50 to 1.00
Very Stiff	1.00 to 2.00
Hard	2.00 and Higher

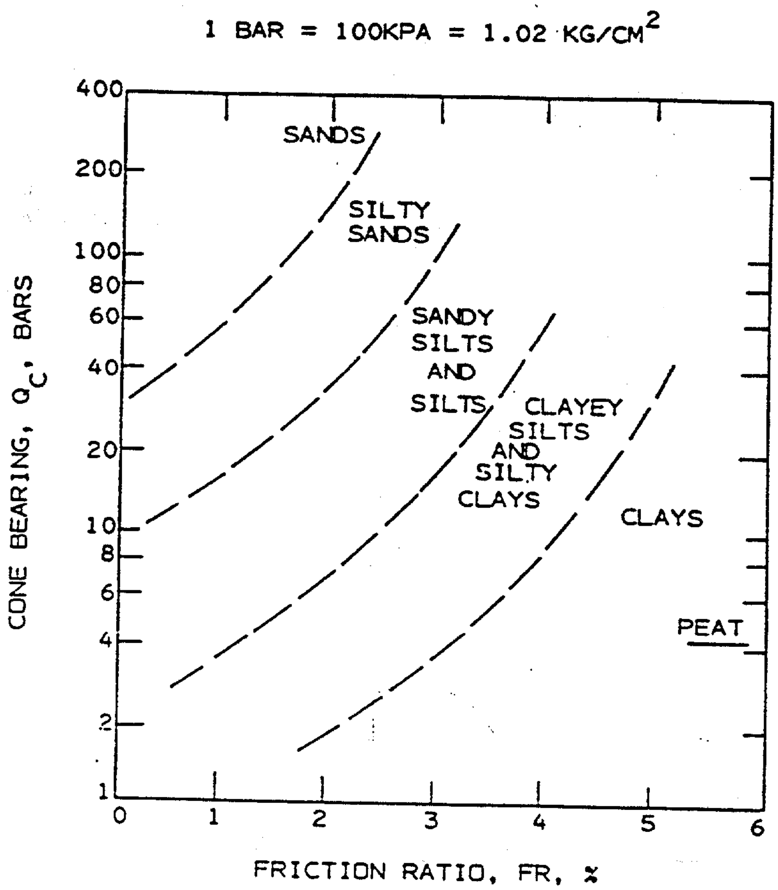
Note: Slickensided and fissured clay may have lower unconfined compressive strengths than shown above because of planes of weakness or shrinkage cracks; consistency ratings of such soils are based on hand penetrometer readings.

TERMS CHARACTERIZING SOIL STRUCTURE

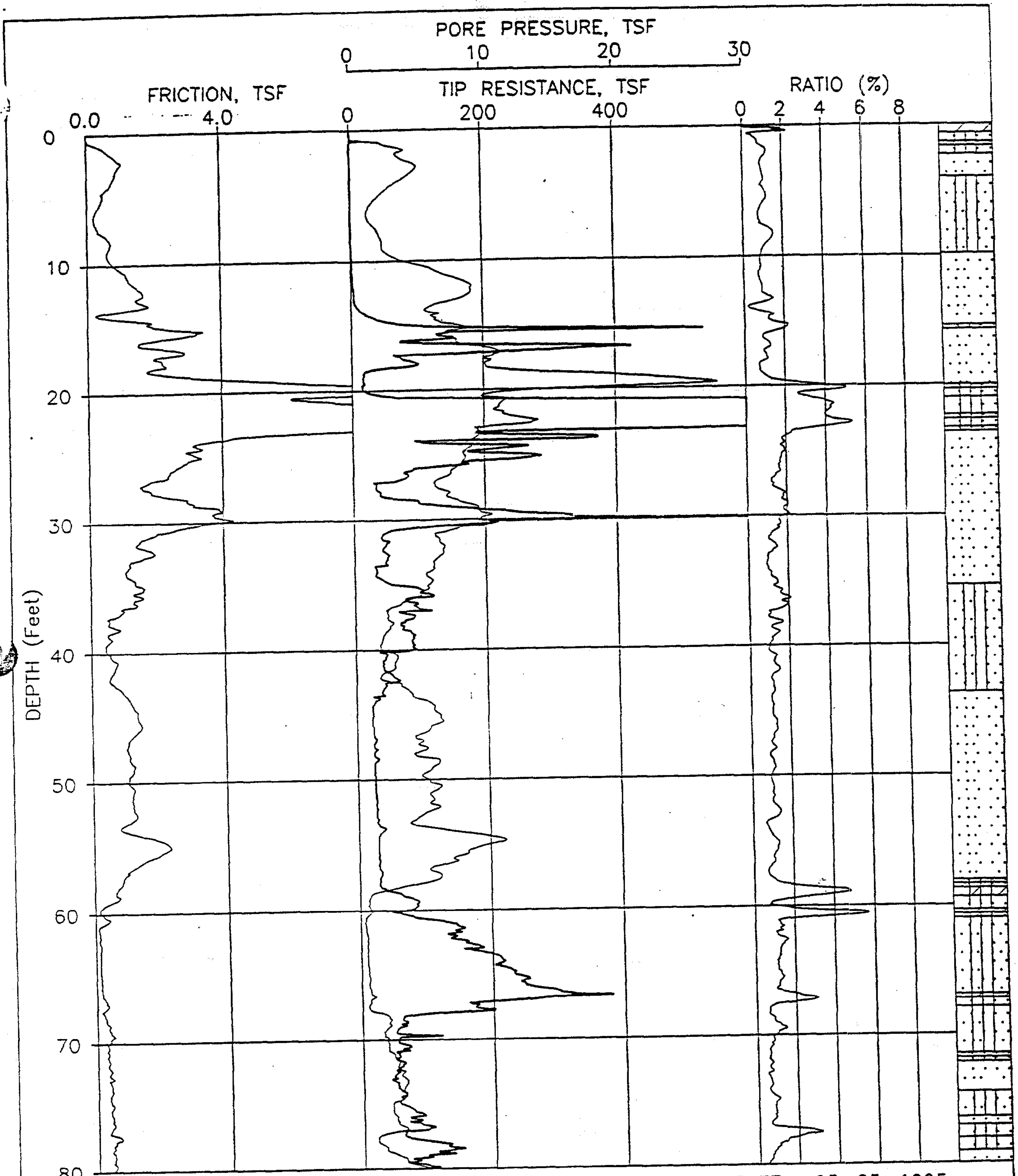
Parting: paper thin in size
Seam: 1/8" to 3" thick
Layer: greater than 3"
Fissured: containing shrinkage cracks, frequently filled with fine sand or silt, usually more or less vertical
Sensitive: pertaining to cohesive soils that are subject to appreciable loss of strength when remolded
Interbedded: composed of alternate layers of different soil types
Laminated: composed of thin layers of varying color and texture
Calcareous: containing appreciable quantities of calcium carbonate
Well Graded: having wide range in grain sizes and substantial amounts of all intermediate particle sizes
Poorly Graded: predominantly of one grain size, or having a range of sizes with some intermediate size missing
Flocculated: pertaining to cohesive soils that exhibit a loose knit or flakey structure
Slickensided: having inclined planes of weakness that are slick and glossy in appearance.

Degree of Slickensided Development

Slightly Slickensided: slickensides present at intervals of 1' to 2', soil does not easily break along these plates
Moderately Slickensided: slickensides spaced at intervals of 1' to 2', soil breaks easily along these planes
Extremely Slickensided: continuous and interconnected slickensides spaced at intervals of 4" to 12', soil breaks along the slickensides into pieces 3" to 6" in size
Intensely Slickensided: slickensides spaced at intervals of less than 4", continuous in all directions; soil breaks down along planes into nodules 1/4" to 2" in size.



CAMPANELLA AND ROBERTSON CLASSIFICATION CHART



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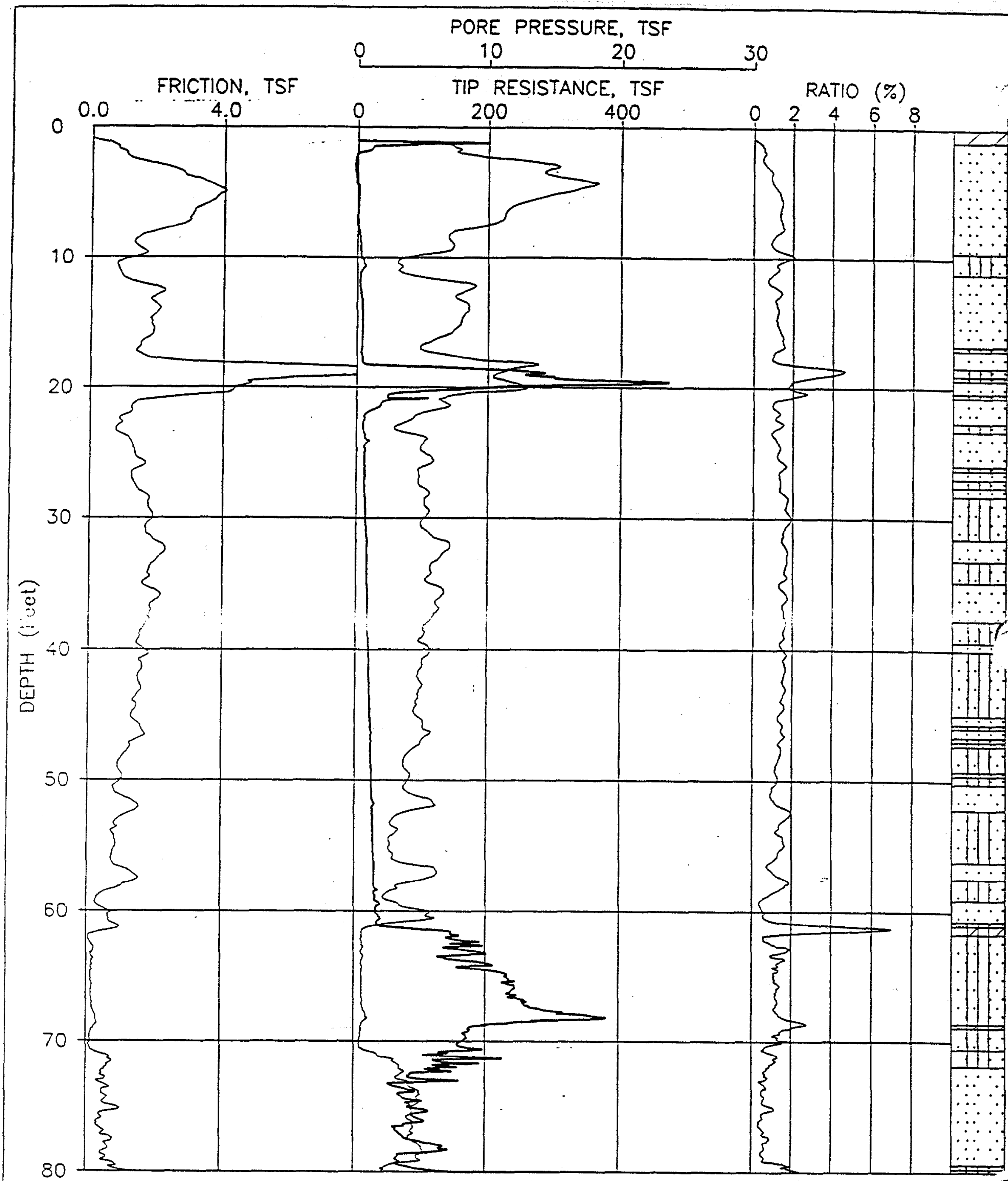
ELEVATION : 0.00

CPT NUMBER :02P001
CONE NUMBER:F7.5CKEW169

DATE : 05-05-1995

FUGRO GEOSCIENCES,INC



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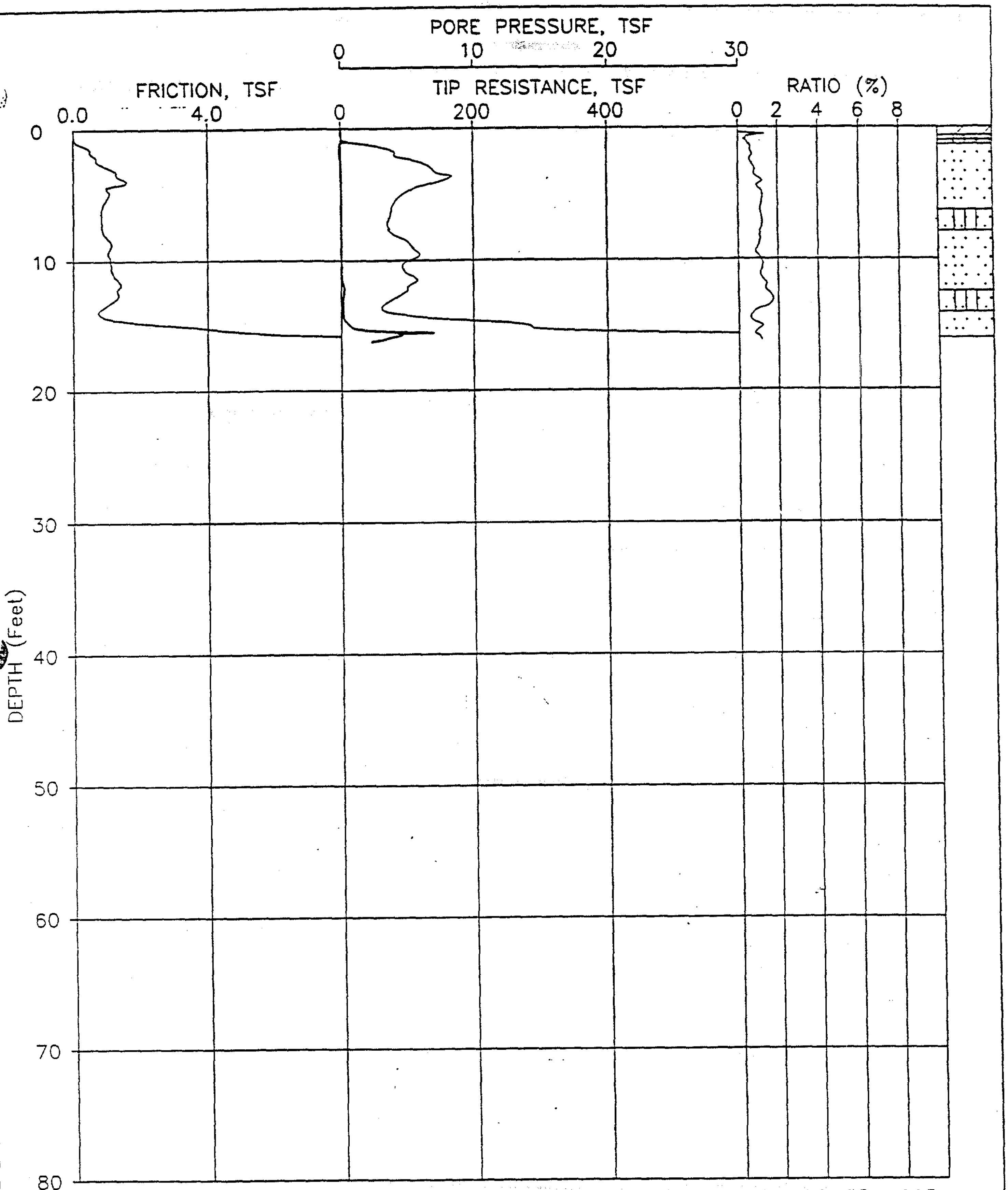
CPT NUMBER :02P002
CONE NUMBER:F7.5CKEW169
DATE : 05-08-1995

FUGRO GEOSCIENCES,INC



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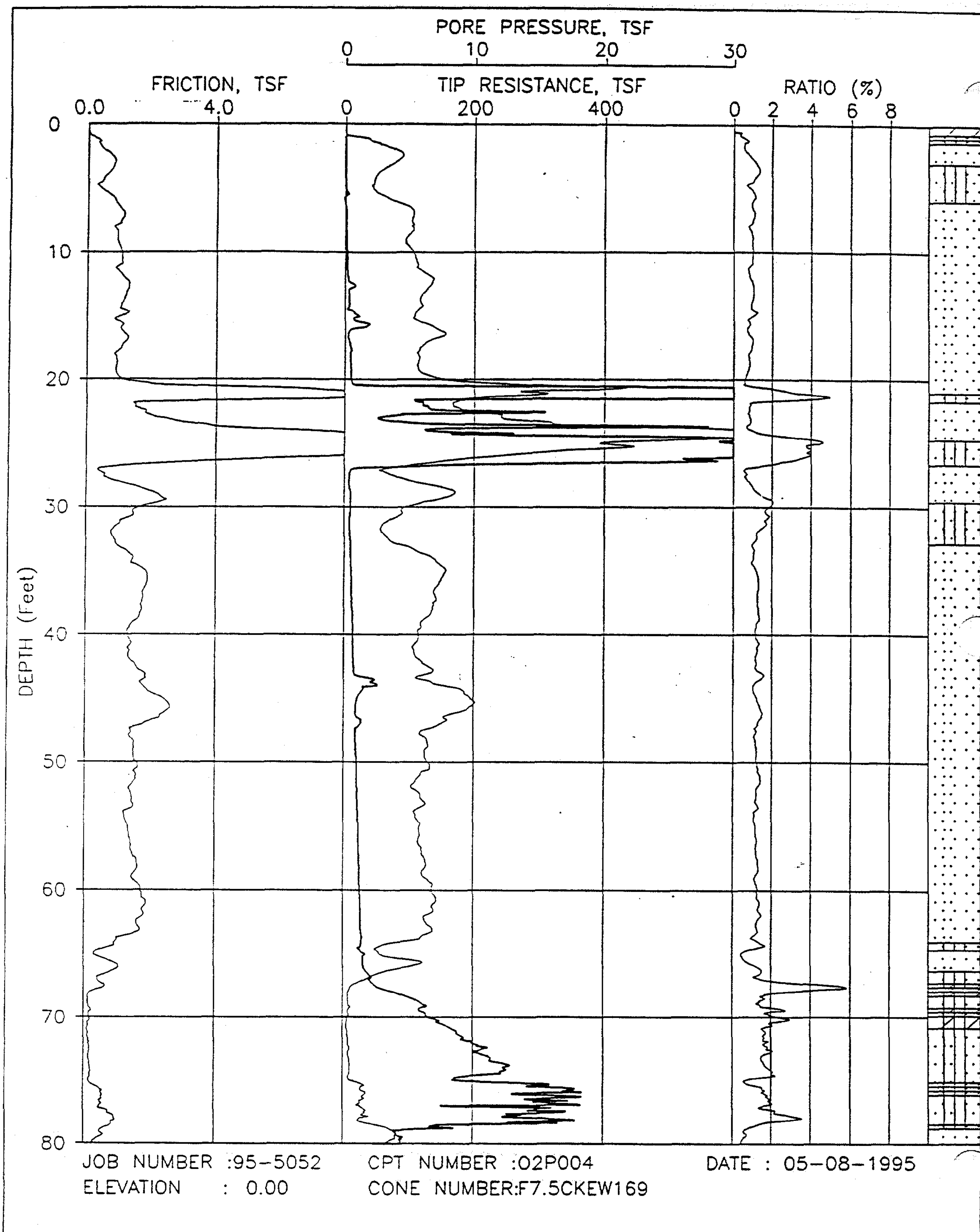
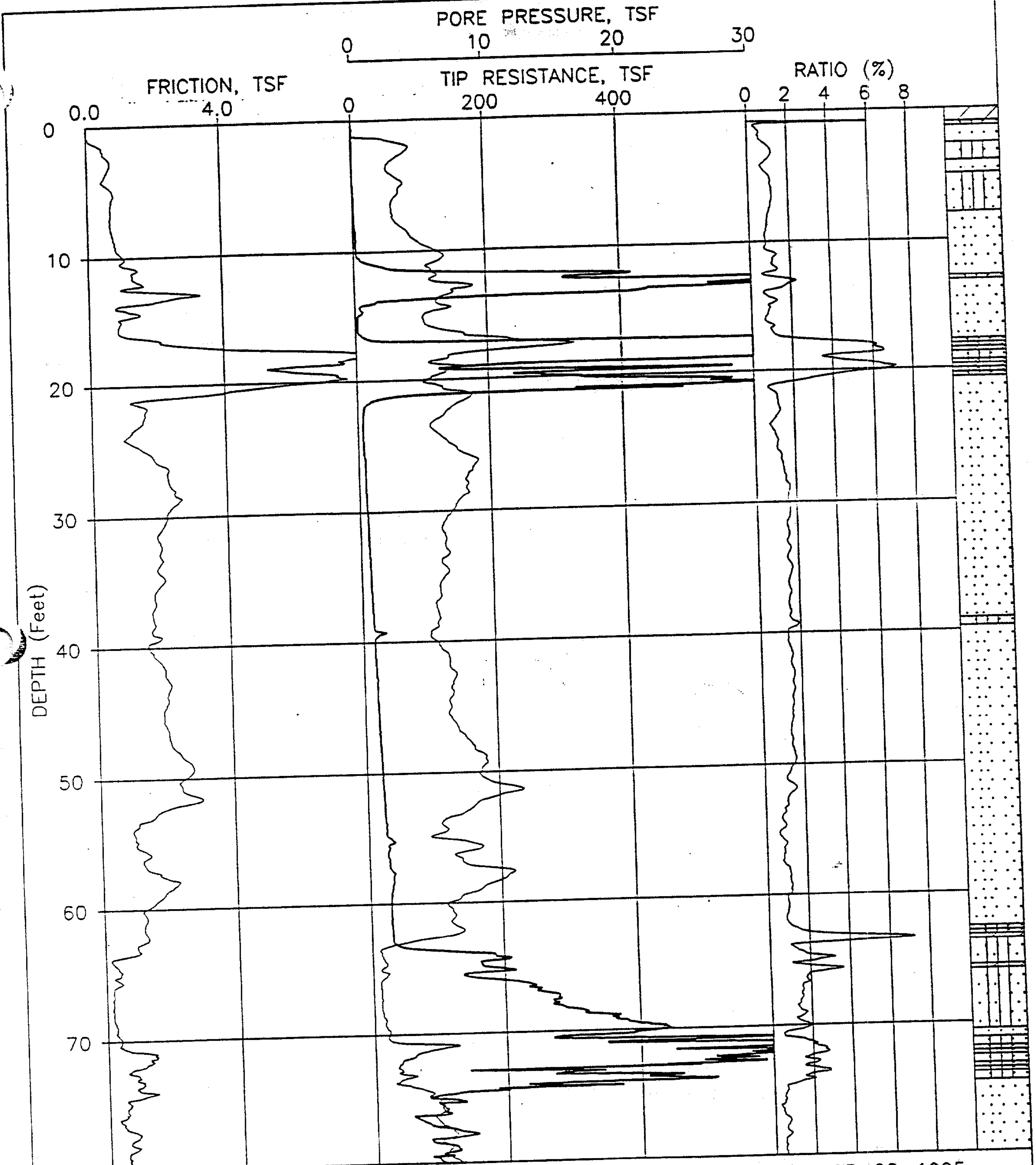
CONE NUMBER:F7.5CKEW169

DATE : 05-05-1995

FUGRO GEOSCIENCES,INC



FUGRO GEOSCIENCES,INC



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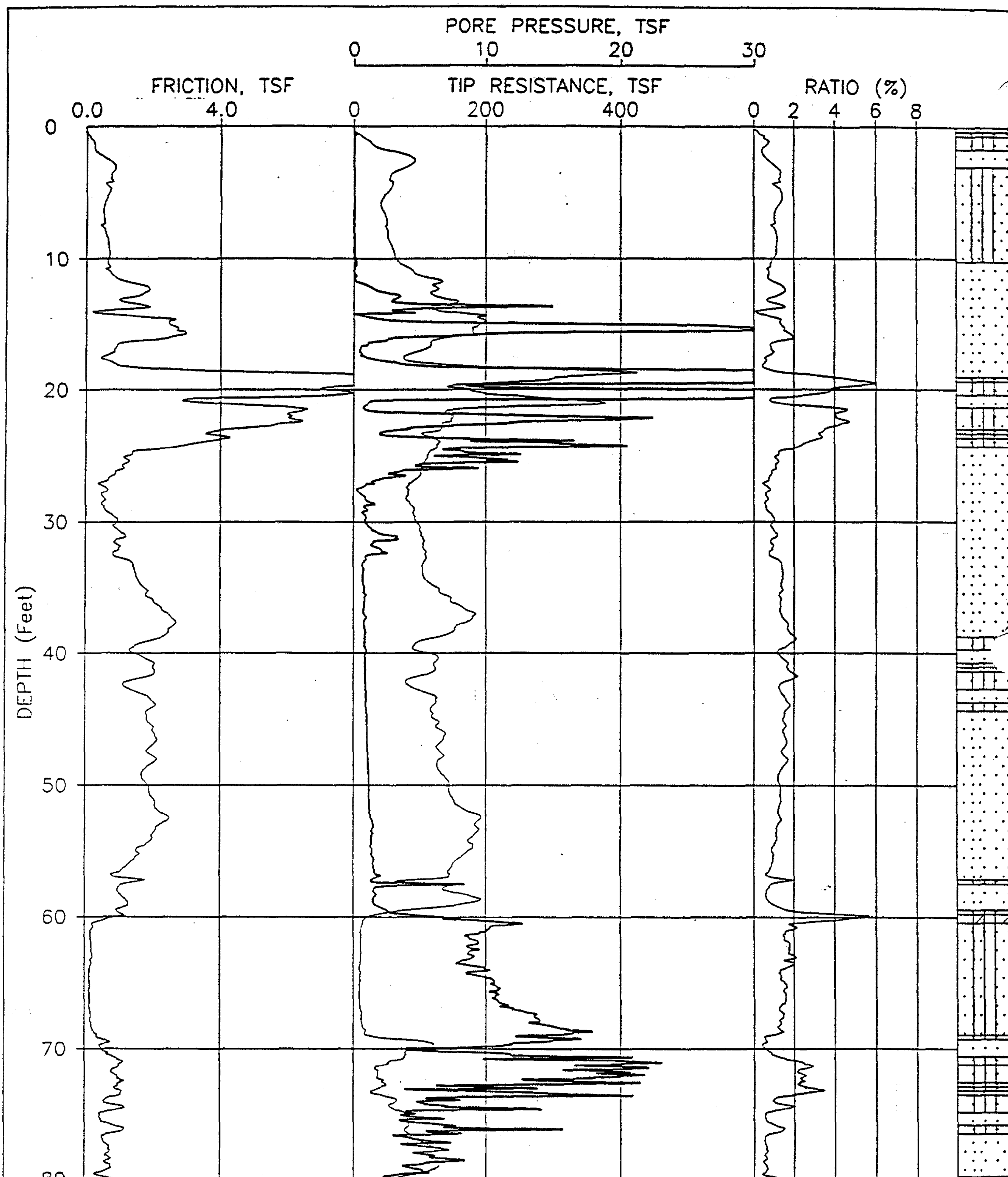
ELEVATION : 0.00

CPT NUMBER :02P005
CONE NUMBER:F7.5CKEW169

DATE : 05-08-1995

FUGRO GEOSCIENCES,INC



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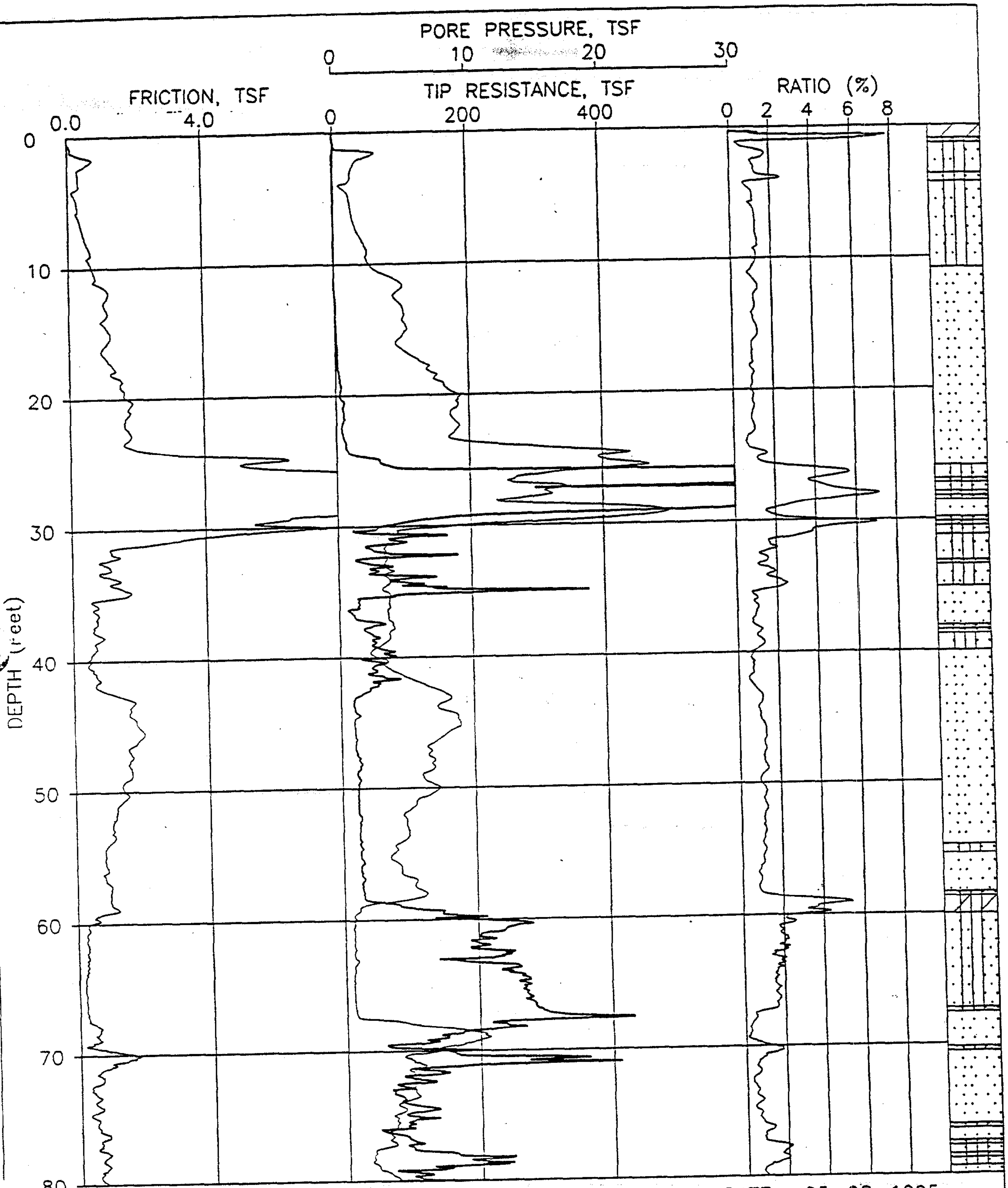
CPT NUMBER :02P006
CONE NUMBER:F7.5CKEW169
DATE : 05-08-1995

FUGRO GEOSCIENCES,INC



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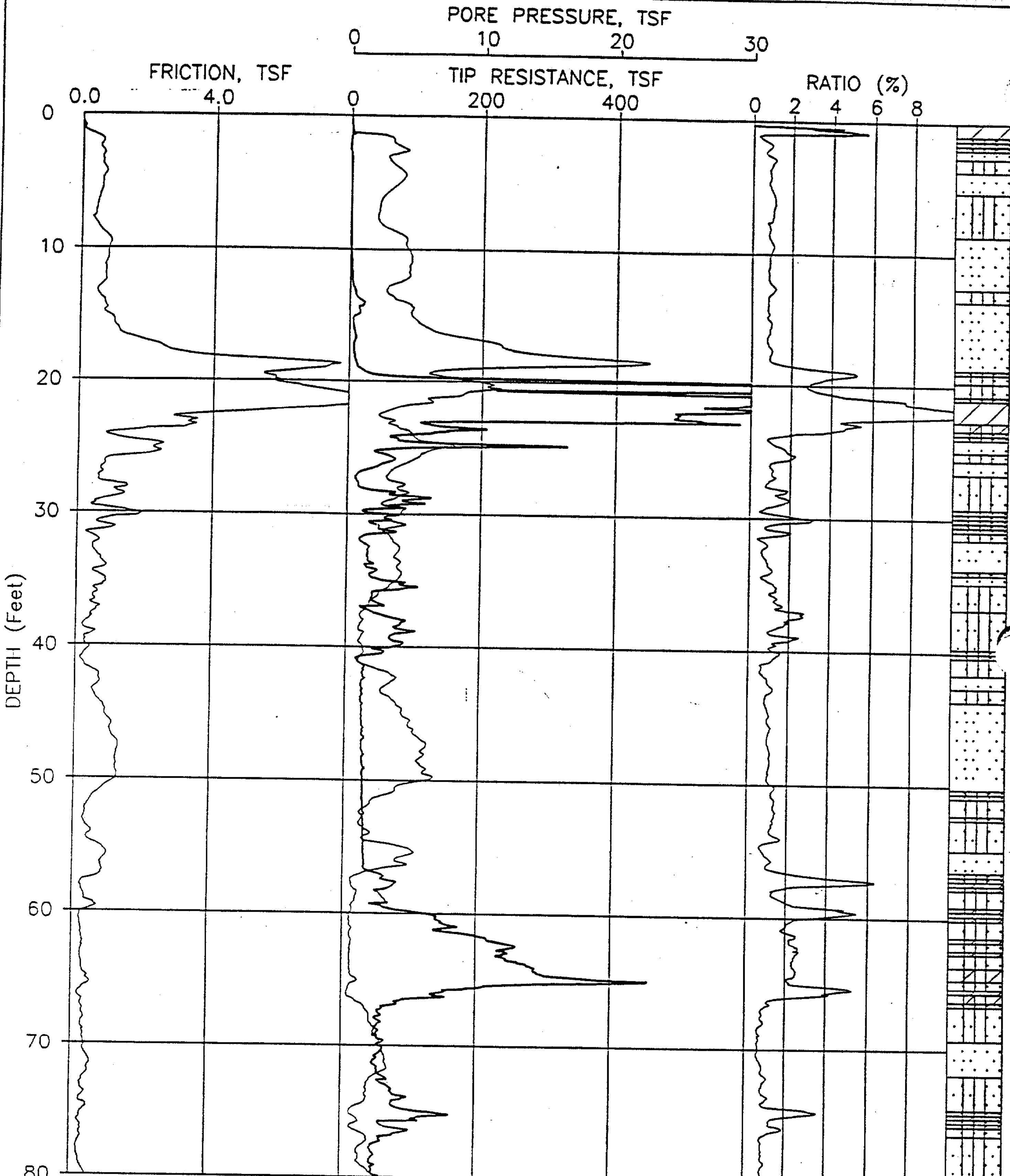
CPT NUMBER :02P007
CONE NUMBER:F7.5CKEW169
DATE : 05-08-1995

FUGRO GEOSCIENCES,INC

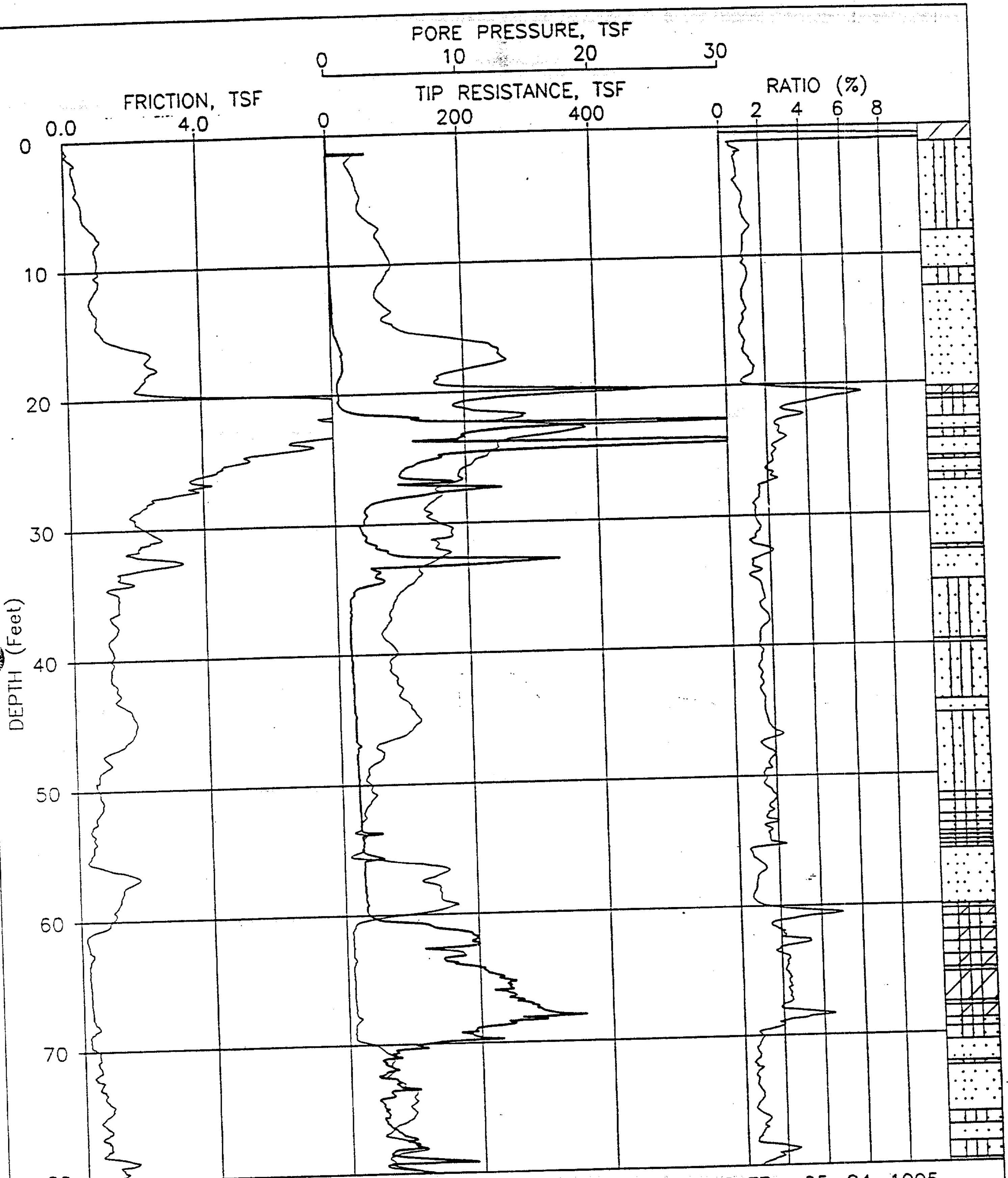


JOB NUMBER :95-5052
ELEVATION : 0.00

CPT NUMBER :02P008
CONE NUMBER:F7.5CKEW169

DATE : 05-23-1995

FUGRO GEOSCIENCES,INC



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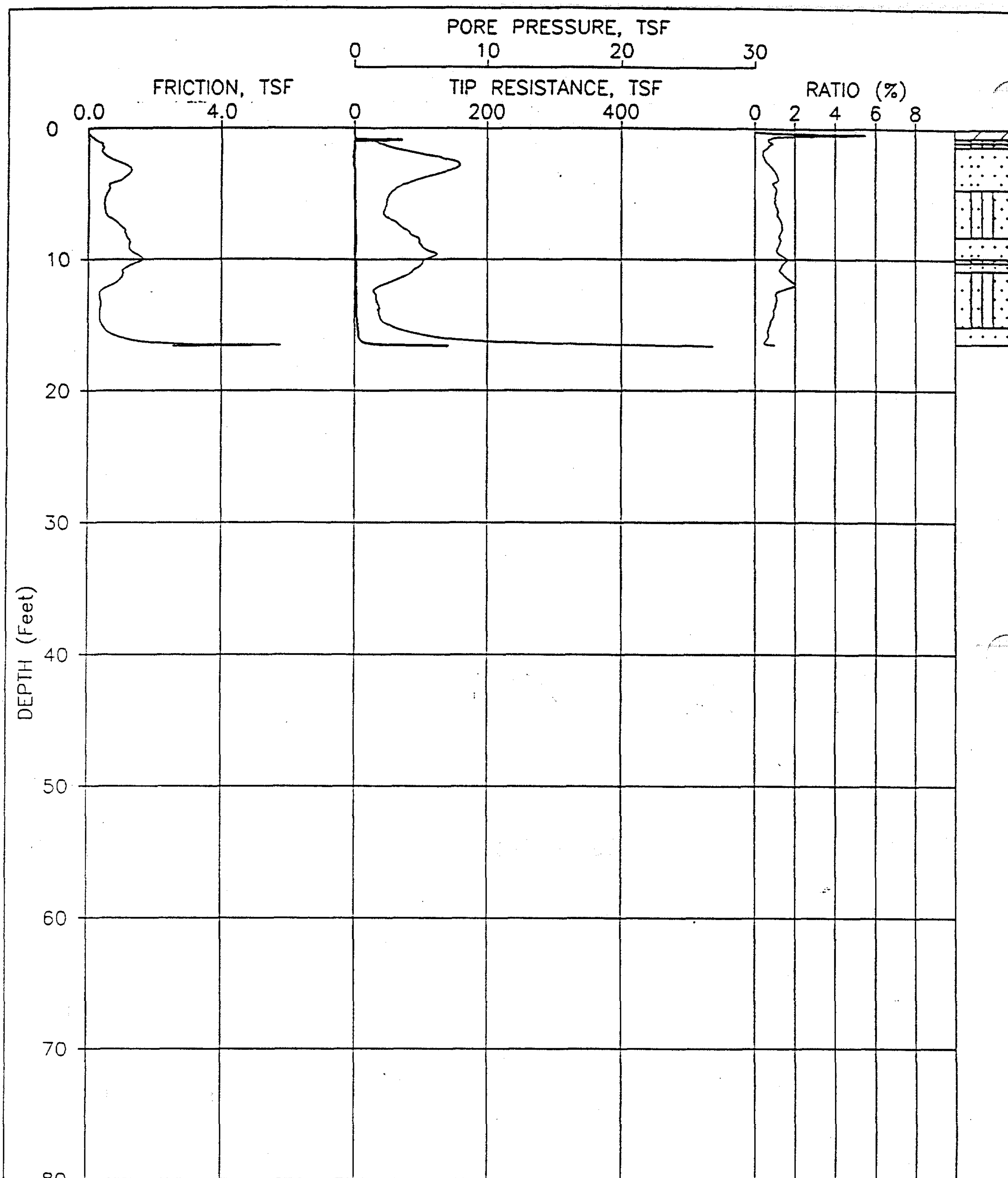
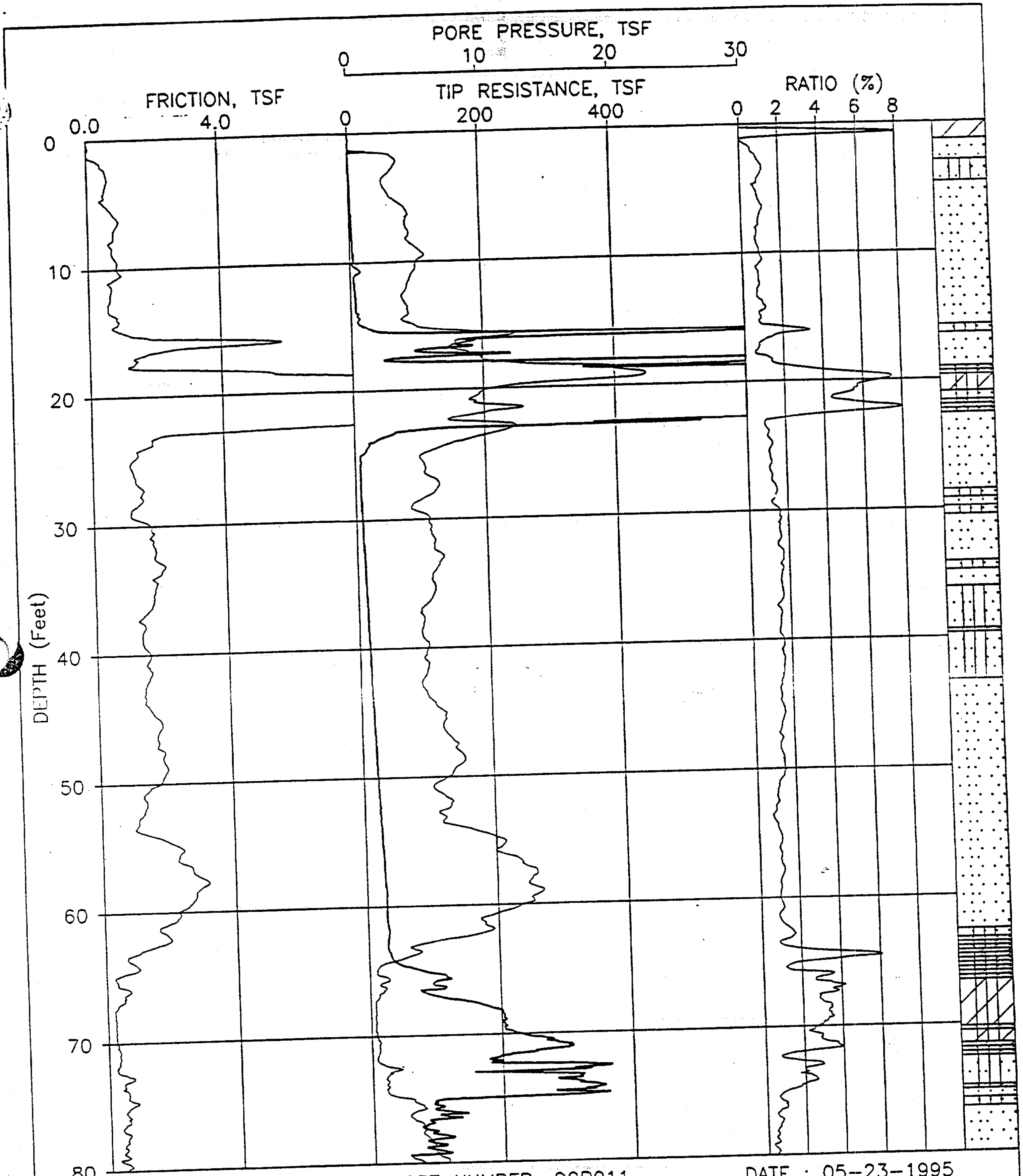
CPT NUMBER :02P009
CONE NUMBER:F7.5CKEW169
DATE : 05-24-1995

FUGRO GEOSCIENCES,INC



JOB NUMBER :95-5052 CPT NUMBER :02P010 DATE : 05-23-1995
ELEVATION : 0.00 CONE NUMBER:F7.5CKEW169

FUGRO GEOSCIENCES,INC



JOB NUMBER :95-5052

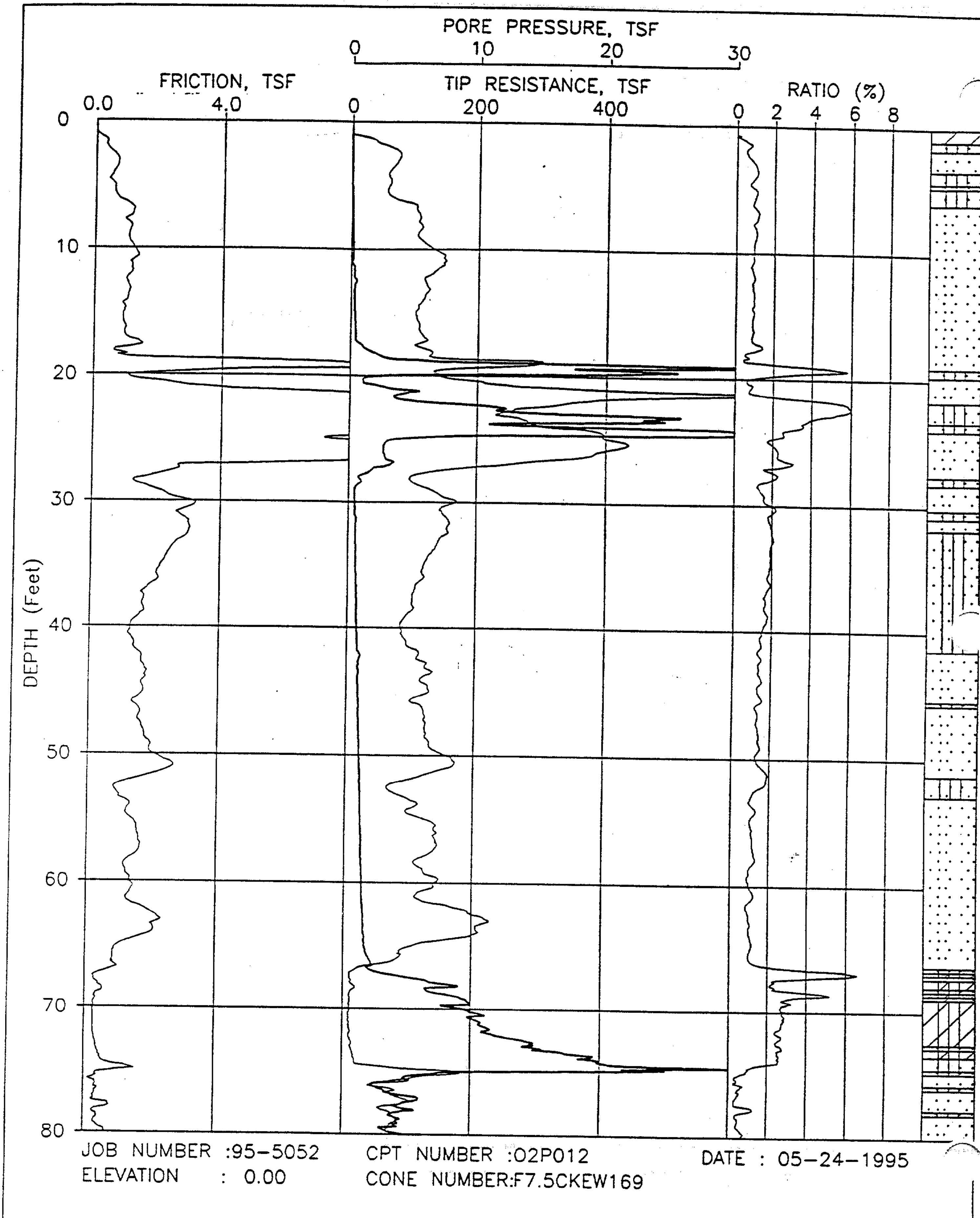
ELEVATION : 0.00

CPT NUMBER :02P011

CONE NUMBER:F7.5CKEW169

DATE : 05-23-1995

FUGRO GEOSCIENCES,INC



FUGRO GEOSCIENCES,INC

APPENDIX F

CONE PENETROMETER TESTING RESULTS
PHASE III (1996)

FUGRO GEOSCIENCES, INC.

FUGRO

6105 Rookin
Houston, TX 77074
Phone : 713-778-5580
Fax : 713-778-5501

November 20, 1996
Report Number 0301-6193

ABB Environmental Services, Inc.
2590 Executive Center Circle East
Tallahassee, Florida 32301-5001

Attention: Mr. Dave Turner

**CONE PENETROMETER TESTING
AND RELATED SERVICES
HERNDON ANNEX
ORLANDO, FLORIDA**

Dear Mr. Turner:

Please find enclosed herewith the final [illegible] ter tests conducted at the above referenced location.

For your information, the soil stratigraphy was identified using Campanella and Robertson's Simplified Soil Behavior Chart. Please note that because of the empirical nature of the soil behavior chart, the soil identification should be verified locally.

Fugro Geosciences appreciates the opportunity to be of service to your organization. If you should have any questions, or if we can be of further assistance, please do not hesitate to contact us. We look forward to working with you in the future.

Very truly yours,
FUGRO GEOSCIENCES, INC.

Recep Yilmaz

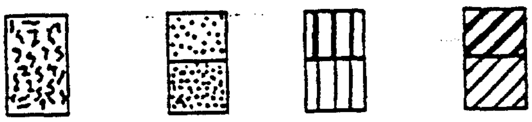
Recep Yilmaz
President

RY/rsp
1 Diskette(s) Enclosed

Key To Soil Classification and Symbols

SOIL TYPE
(Shown in Symbol Column)

Sand Silt Clay



Fill Sandy Silty Clayey

Predominant Type Shown Heavy

SAMPLE TYPE
(Shown in Samples Column)

Undisturbed Rock Core Split Spoon No Recovery

TERMS DESCRIBING CONSISTENCY OR CONDITION

COARSE GRAINED SOILS (Major portion Retained on No. 200 Sieve)
Includes (1) clean gravels and sand described as fine, medium or course, depending on distribution of grain sizes (2) silty or clayey gravels and sands and (3) fine grained low plasticity soils (PI < 10) such as sandy silts. Condition is rated according to relative density, as determined by lab tests or estimated from resistance to sampler penetration.

Descriptive Term	Penetration Resistance*	Relative Density
Loose	0 - 10	0 to 40%
Medium Dense	10 - 30	40 to 70%
Dense	30 - 50	70 to 90%
Very Dense	Over 50	90 to 100%

* Blows/Foot, 140# Hammer, 30" Drop

FINE GRAINED SOILS (Major Portion Passing No. 200 Sieve)
Includes (1) inorganic and organic silts and clays, (2) sandy, gravelly or silty clays, and (3) clayey silts. Consistency is rated according to shearing strength, as indicated by penetrometer readings or by unconfined compression tests for soils with PI $\geq$ 10.

Descriptive Term	Cohesive Shear Strength Tons/Square Foot
Very Soft	Less Than 0.125
Soft	0.125 to 0.25
Firm	0.25 to 0.50
Stiff	0.50 to 1.00
Very Stiff	1.00 to 2.00
Hard	2.00 and Higher

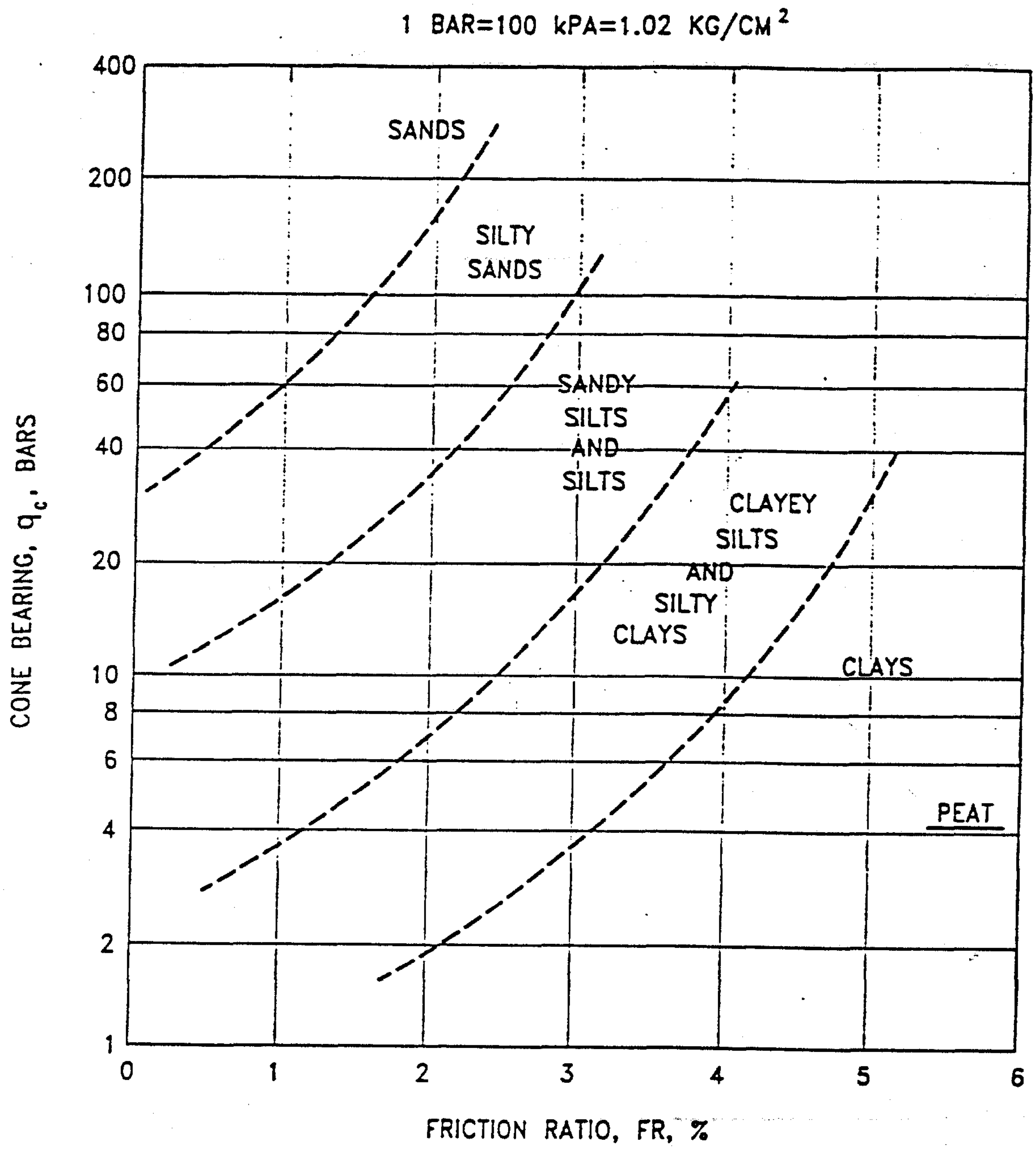
Note: Slickensided and fissured clay may have lower unconfined compressive strengths than shown above because of planes of weakness or shrinkage cracks; consistency ratings of such soils are based on hand penetrometer readings.

TERMS CHARACTERIZING SOIL STRUCTURE

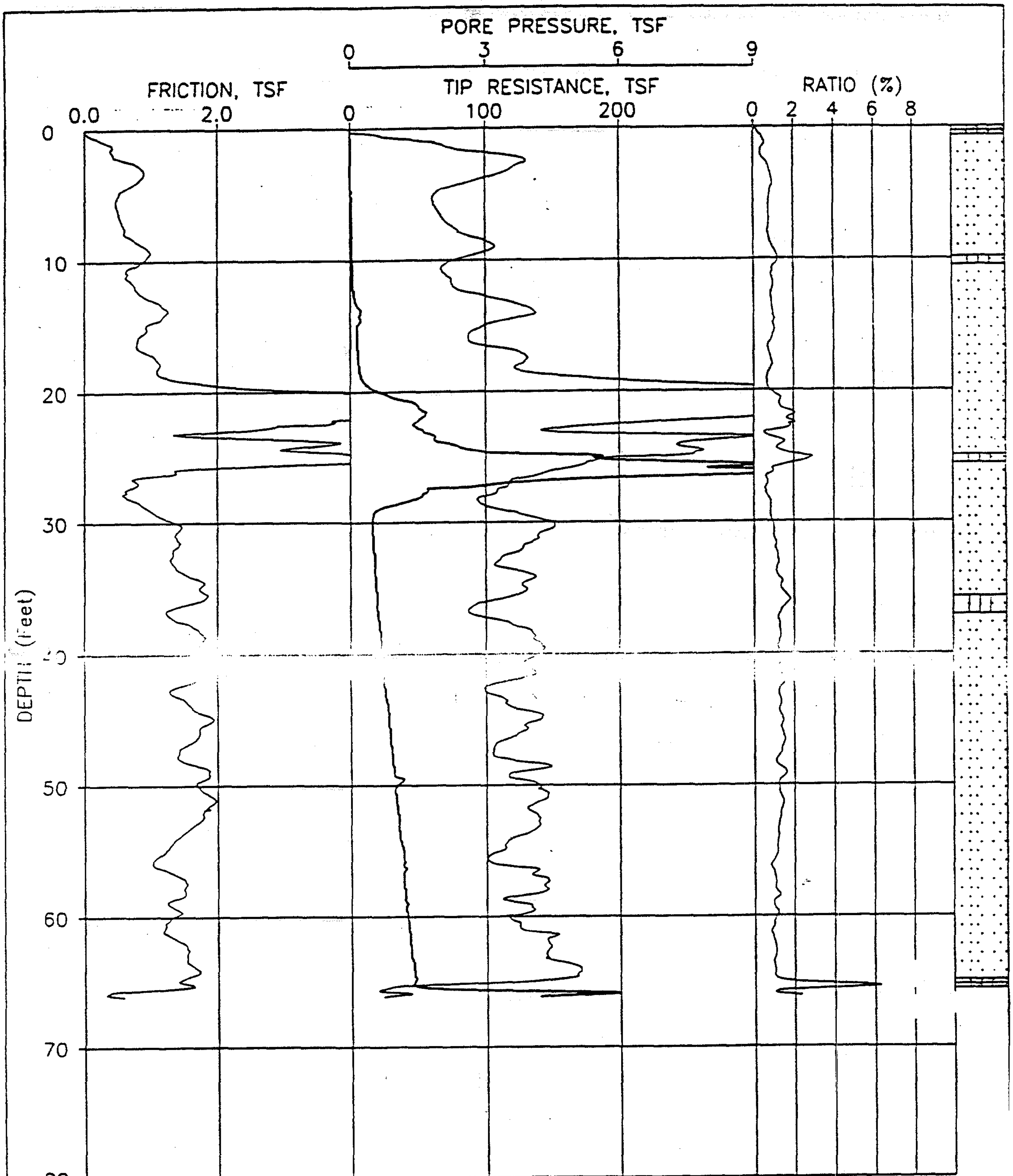
Parting:	paper thin in size
Seam:	1/8" to 3" thick
Layer:	greater than 3"
Fissured:	containing shrinkage cracks, frequently filled with fine sand or silt, usually more or less vertical
Sensitive:	pertaining to cohesive soils that are subject to appreciable loss of strength when remolded
Interbedded:	composed of alternate layers of different soil types
Laminated:	composed of thin layers of varying color and texture
Calcareous:	containing appreciable quantities of calcium carbonate
Well Graded:	having wide range in grain sizes and substantial amounts of all intermediate particle sizes
.orly Graded:	predominantly of one grain size, or having a range of sizes with some intermediate size missing
Flocculated:	pertaining to cohesive soils that exhibit a loose knit or flakey structure
Slickensided:	having inclined planes of weakness that are slick and glossy in appearance.

Degree of Slickensided Development

Slightly Slickensided:	slickensides present at intervals of 1' to 2', soil does not easily break along these plates
Moderately Slickensided:	slickensides spaced at intervals of 1' to 2', soil breaks easily along these planes
Extremely Slickensided:	continuous and interconnected slickensides spaced at intervals of 4" to 12', soil breaks along the slickensides into pieces 3" to 6" in size
Intensely Slickensided:	slickensides spaced at intervals of less than 4", continuous in all directions; soil breaks down along planes into nodules 1/4" to 2" in size.

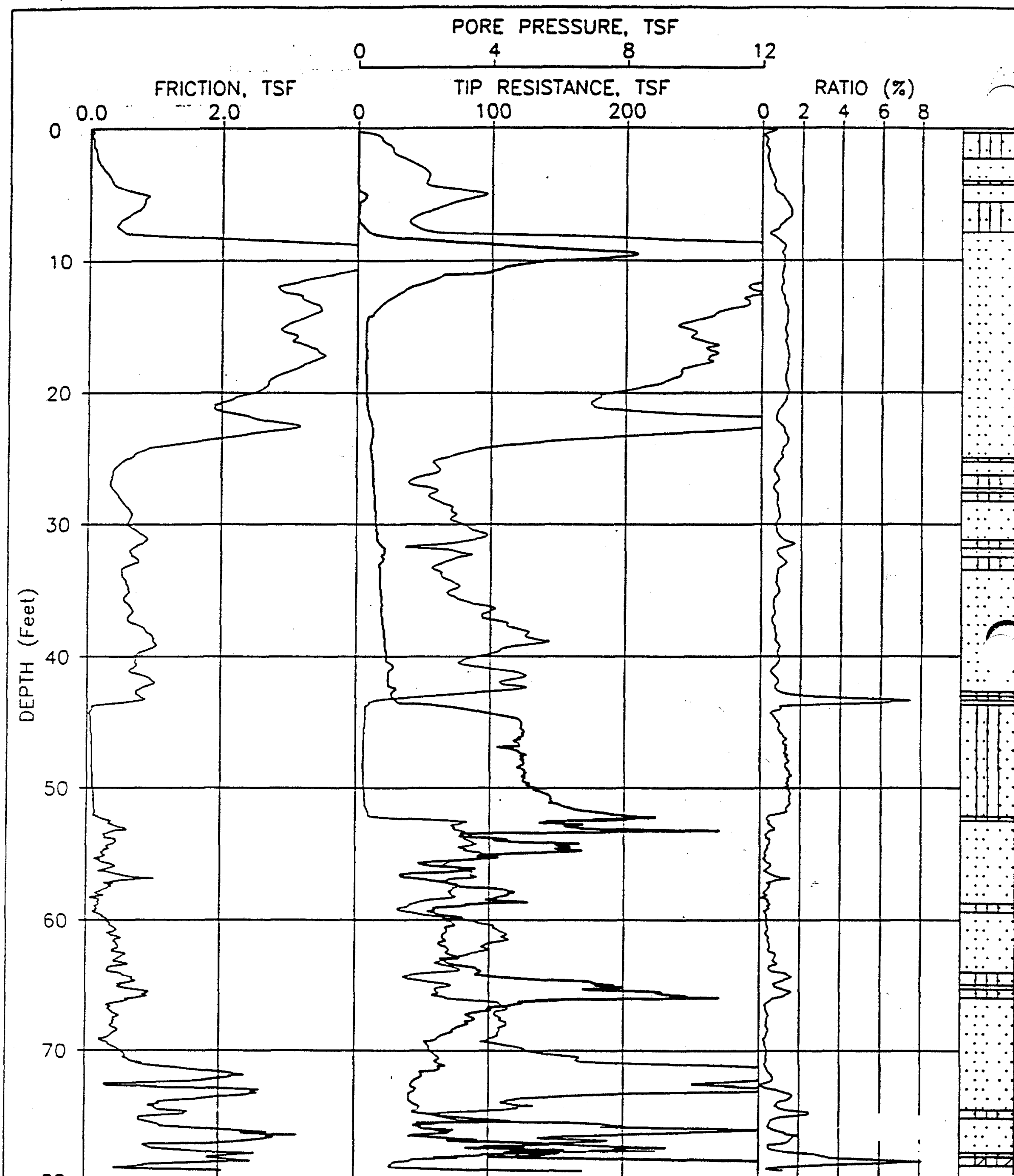


CAMPANELLA AND ROBERTSON CLASSIFICATION CHART (1983)



JOB NUMBER: 96-6193
ELEVATION: 0.00
CPT NUMBER: 02Q014
CONE NUMBER: F7.5CKEW480
DATE: 10-21-1996
PLATE: 1 OF 1

FUGRO GEOSCIENCES,INC



JOB NUMBER: 96-6193
ELEVATION: 0.00
CPT NUMBER: 02Q030
CONE NUMBER: F7.5CKEW480
DATE: 10-22-1996
PLATE: 1 OF 1

FUGRO GEOSCIENCES,INC

APPENDIX F

CONE PENETROMETER TESTING RESULTS
PHASE IV (1997)

PRESENTATION OF CONE PENETRATION TEST DATA

NTC ORLANDO

HERNDON ANNEX
ORLANDO, FLORIDA

Prepared for:

ABB ENVIRONMENTAL SERVICES
Orlando, Florida

Prepared by:

GREGG IN SITU, INC.
Signal Hill, California

Prepared on:

November 18, 1997

TABLE OF CONTENTS

PRESENTATION OF CONE PENETRATION TEST DATA

1.0 INTRODUCTION

This report presents the results of a Cone Penetration Testing (CPT) and in situ groundwater sampling program carried out at the Herndon Annex site located in Orlando, FL. The work was performed between 7/21 - 7/25/97. The scope of work was performed as directed by ABB ENVIRONMENTAL SERVICES personnel.

2.0 FIELD EQUIPMENT & PROCEDURES

The Cone Penetration Tests (CPT) were carried out by GREGG IN SITU, INC. of Signal Hill, CA using an integrated electronic cone system. The CPT soundings were performed in accordance with ASTM standards (D3441). A 20 ton capacity cone was used for all of the soundings. This cone has a tip area of 15 sq.cm. and friction sleeve area of 225 sq.cm. The cone is designed with an equal end area friction sleeve and a tip end area ratio of 0.85.

The cones used during the program recorded the following parameters at 5 cm depth intervals:

- Tip Resistance (Qc)
- Sleeve Friction (Fs)
- Dynamic Pore Pressure (Ut)

The above parameters were printed simultaneously on a printer and stored on a computer diskette for future analysis and reference.

The pore water pressure element was located directly behind the cone tip. The pore water pressure element was 5.0 mm thick and consisted of porous plastic. Each of the elements were saturated in glycerin under vacuum pressure prior to penetration. Pore pressure dissipations were recorded at 5 second intervals when appropriate during pauses in the penetration.

A complete set of baseline readings was taken prior to each sounding to determine temperature shifts and any zero load offsets. Monitoring base line readings ensures that the cone electronics are operating properly.

The cones were pushed using GREGG IN SITU's CPT rig, having a down pressure capacity of approximately 25 tons. Eight CPT soundings were performed. The penetration tests were carried to depths of approximately 80 feet below ground surface. Test locations and depths were determined in the field by ABB ENVIRONMENTAL SERVICES personnel.

In situ groundwater samples were taken at 6 locations. Groundwater samples were collected using the Hydropunch groundwater sampling system. The Hydropunch operates by pushing 1.75 inch diameter hollow rods with a retrievable tip. A stainless steel filter screen is attached to the tip. At the desired sampling depth, the rods are retracted exposing the filter screen and allowing for groundwater infiltration. A small diameter bailer is then used to collect groundwater samples through the hollow rod.

The CPT/Hydropunch holes were grouted using our support rig. The grouting procedure consists of pushing a hollow CPT rod with a "knock out" plug back down the hole to the test hole termination depth. Grout is then pumped under pressure as the tremie pipe is pulled from the hole.

3.0 CONE PENETRATION TEST DATA & INTERPRETATION

The cone penetration test data is presented in graphical form in the attached Appendix. Penetration depths are referenced to existing ground surface. This data includes CPT logs of measured soil parameters and a computer tabulation of interpreted soil types along with additional geotechnical parameters and pore pressure dissipation data.

The stratigraphic interpretation is based on relationships between cone bearing (Qc), sleeve friction (Fs), and penetration pore pressure (Ut). The friction ratio (Rf), which is sleeve friction divided by cone bearing, is a calculated parameter which is used to infer soil behavior type. Generally, cohesive soils (clays) have high friction ratios, low cone bearing and generate large excess pore water pressures. Cohesionless soils (sands) have lower friction ratios, high cone bearing and generate little in the way of excess pore water pressures.

The interpretation of soils encountered on this project was carried out using recent correlations developed by Robertson et al, 1988. It should be noted that it is not always possible to clearly identify a soil type based on Qc, Fs and Ut. In these situations, experience and judgement and an assessment of the pore pressure dissipation data should be used to infer the soil behavior type. The soil classification chart used to interpret soil types based on Qc and Rf is provided in the Appendix.

We hope the information presented is sufficient for your purposes. If you have any questions, please do not hesitate to contact our office at (281) 354-7400.

Sincerely,
GREGG IN SITU, INC.

James Russell
General Manager

TABLE 1

SUMMARY OF CPT AND GROUNDWATER DATA

HERNDON ANNEX
ORLANDO, FLORIDA

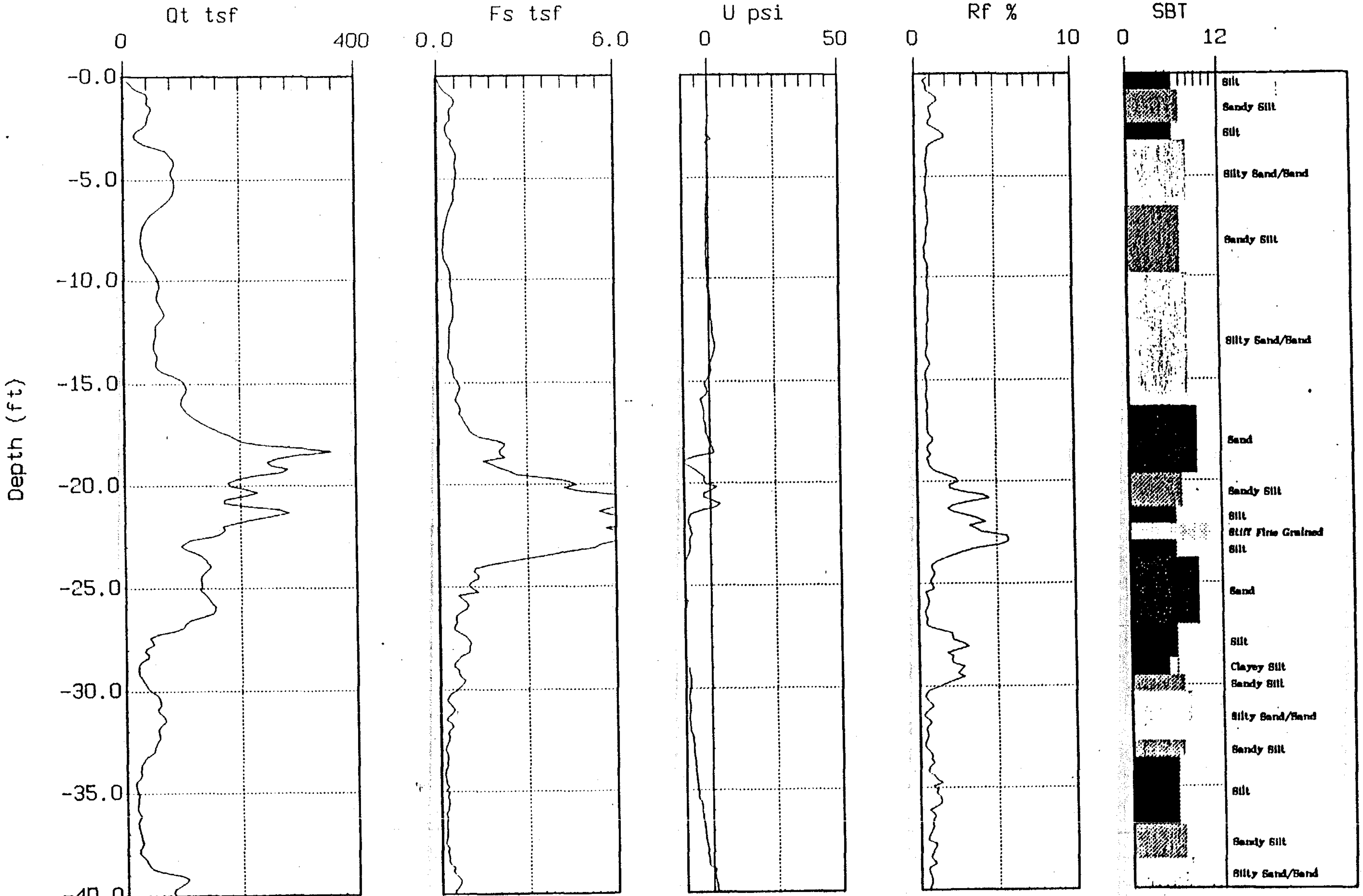
LOCATION	CPT DEPTH (ft)	DEPTH OF GROUNDWATER SAMPLE (ft)
P10001	80	33, 43, 53, 63
P10101	80	33, 43, 48, 53
P10201	80	33, 40, 46, 53
P10301	80	33, 40, 46, 52
P10401	10	
P10401	77	33, 38, 43, 48
P10501	77	28, 34, 41, 47
P10302	55	

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : P10001

ENGINEER : B. BURNS
Date : 07:21:97 09:28



Max. Depth: 81.36 (ft)

Depth Inc.: 0.164 (ft)

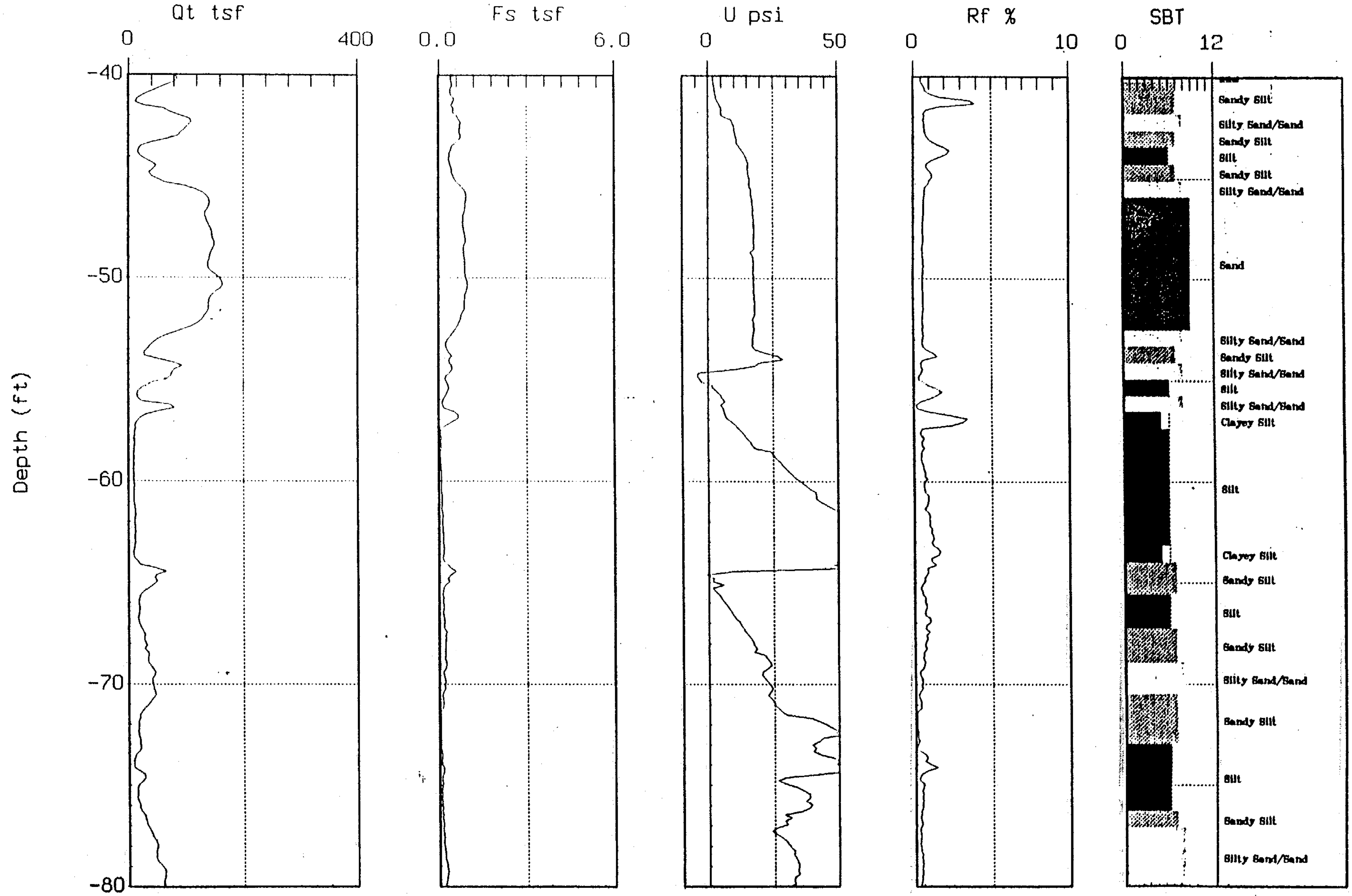
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : P10001

ENGINEER : B. BURNS
Date : 07:21:97 09:28



Max. Depth: 81.36 (ft)

Depth Inc.: 0.164 (ft)

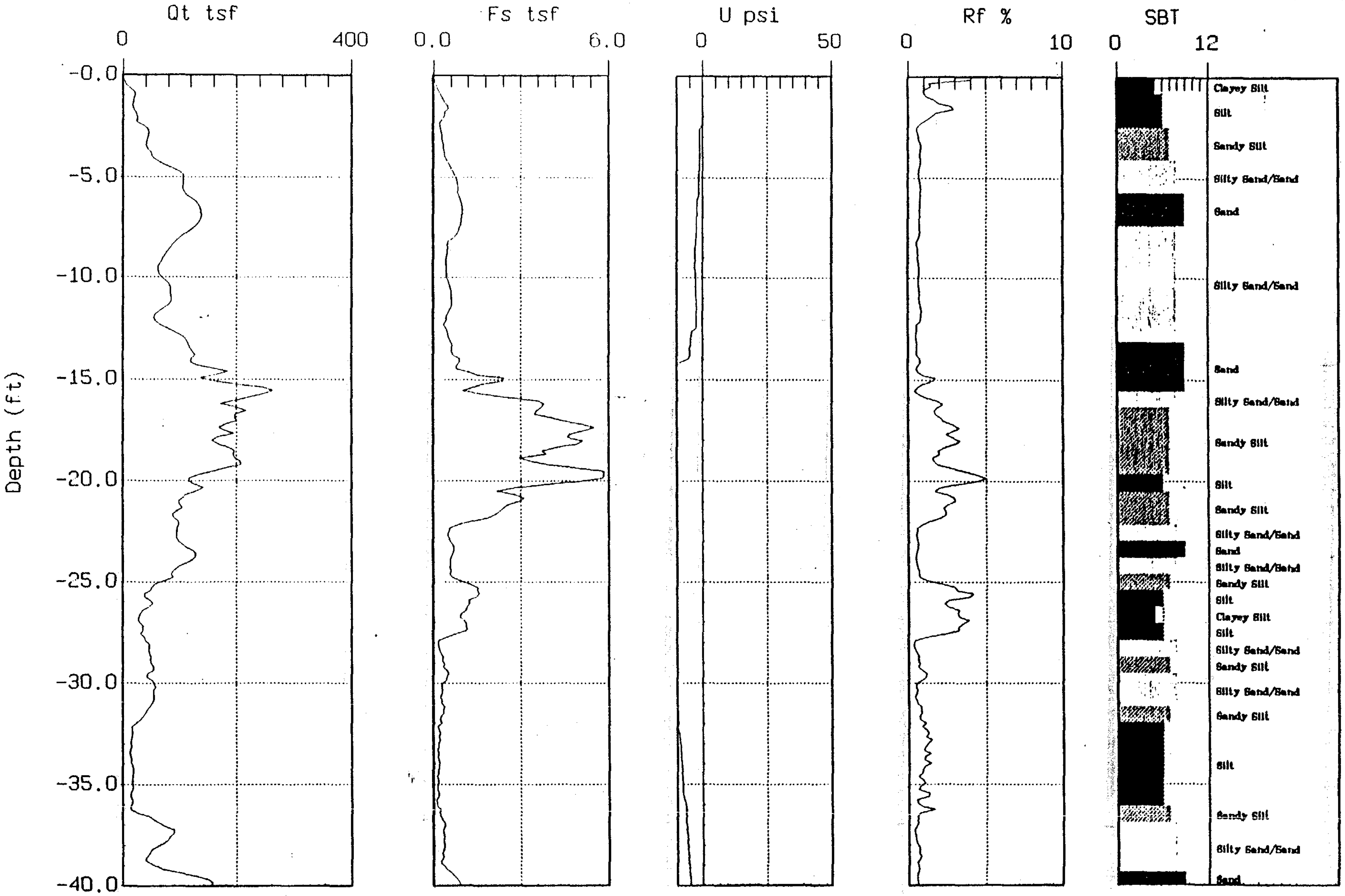
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : P10101

ENGINEER : B. BURNS
Date : 07:21:97 10:55



Max. Depth: 80.22 (ft)

Depth Inc.: 0.164 (ft)

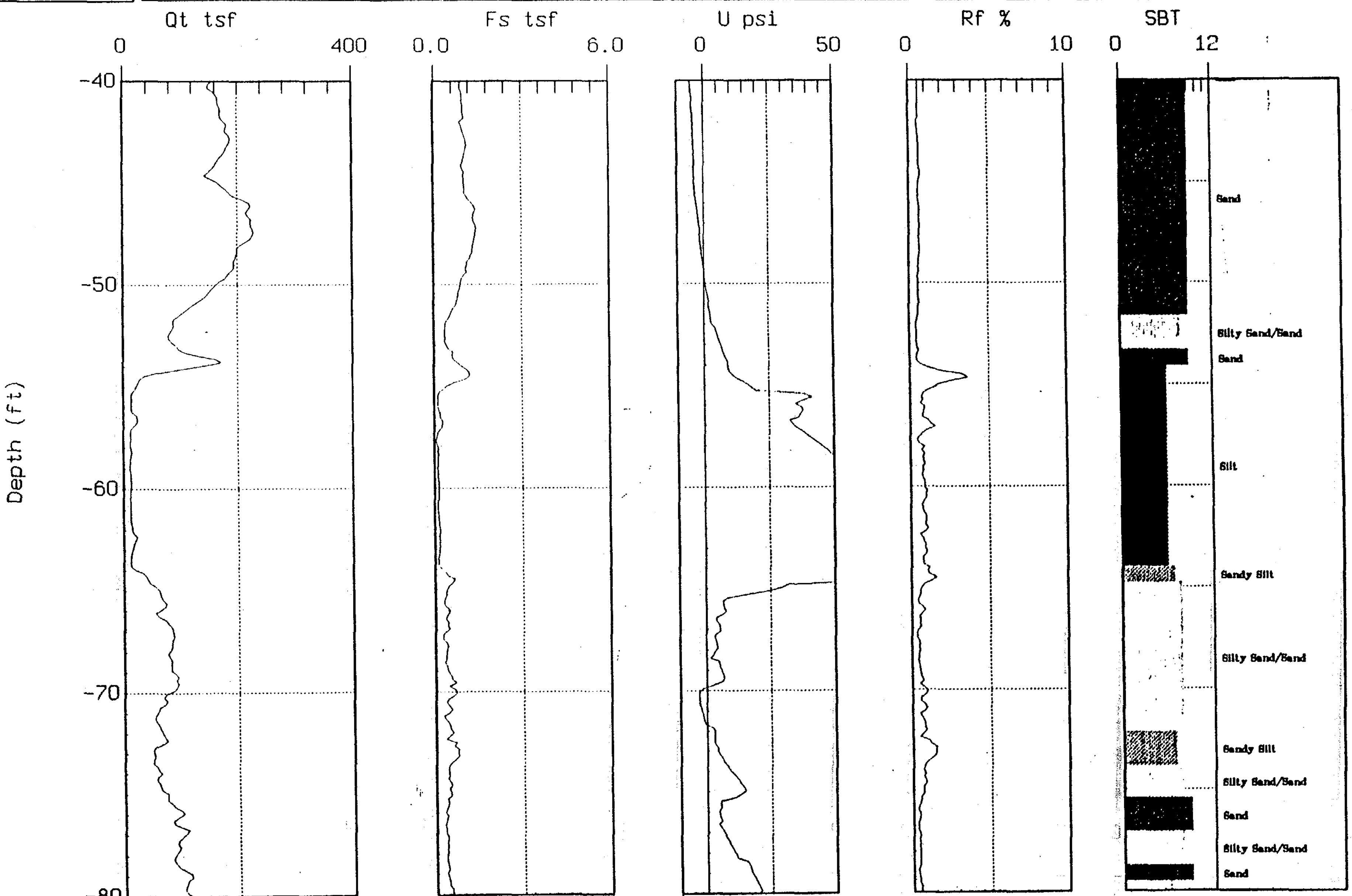
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : P10101

ENGINEER : B. BURNS
Date : 07:21:97 10:55



Max. Depth: 80.22 (ft)

Depth Inc.: 0.164 (ft)

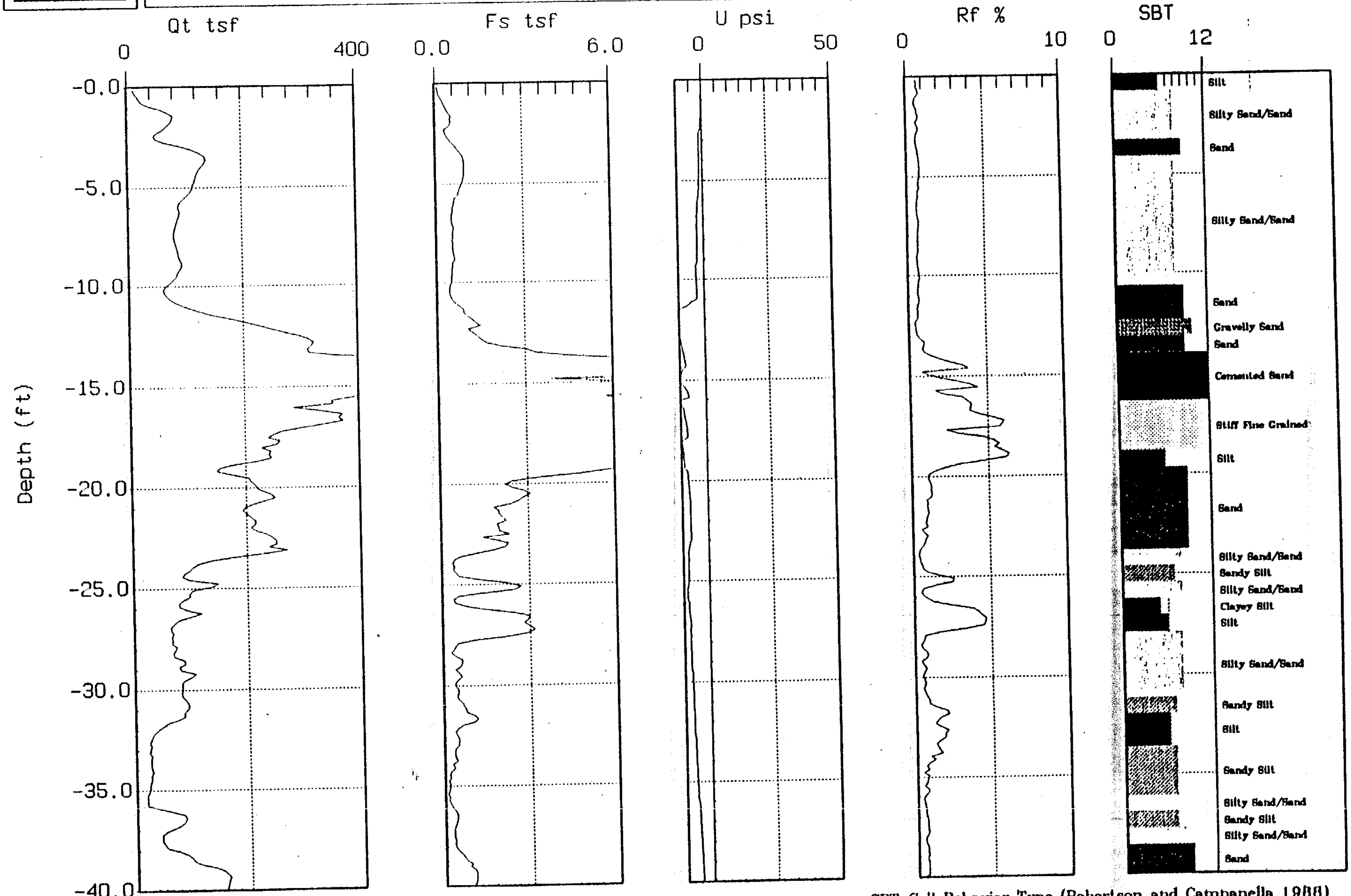
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : P10201

ENGINEER : B. BURNS
Date : 07:21:97 12:10



Max. Depth: 80.05 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : P10201

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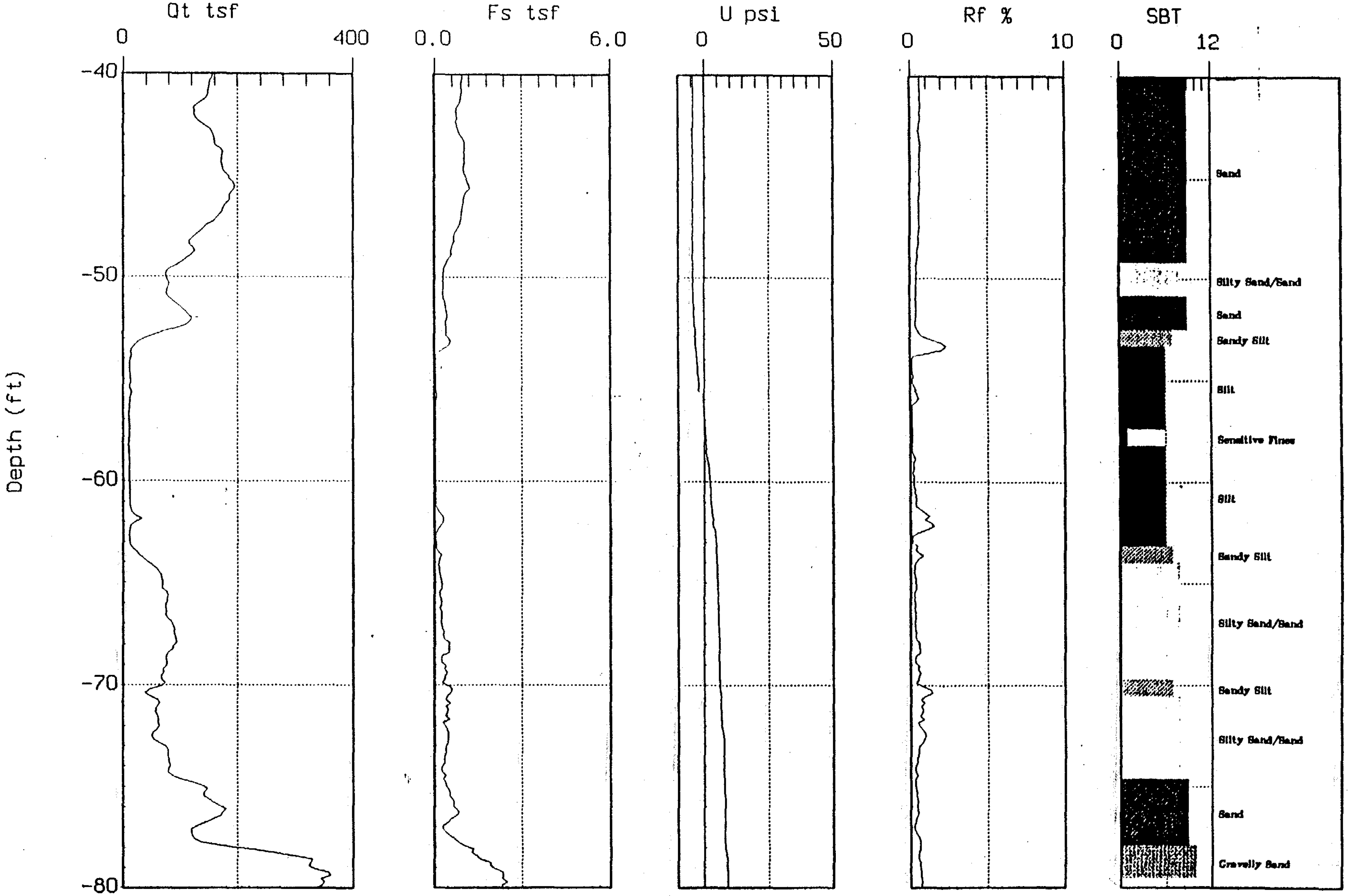
Date : 07:21:97 12:10



Max. Depth: 80.05 (ft)

Depth Inc.: 0.164 (ft)

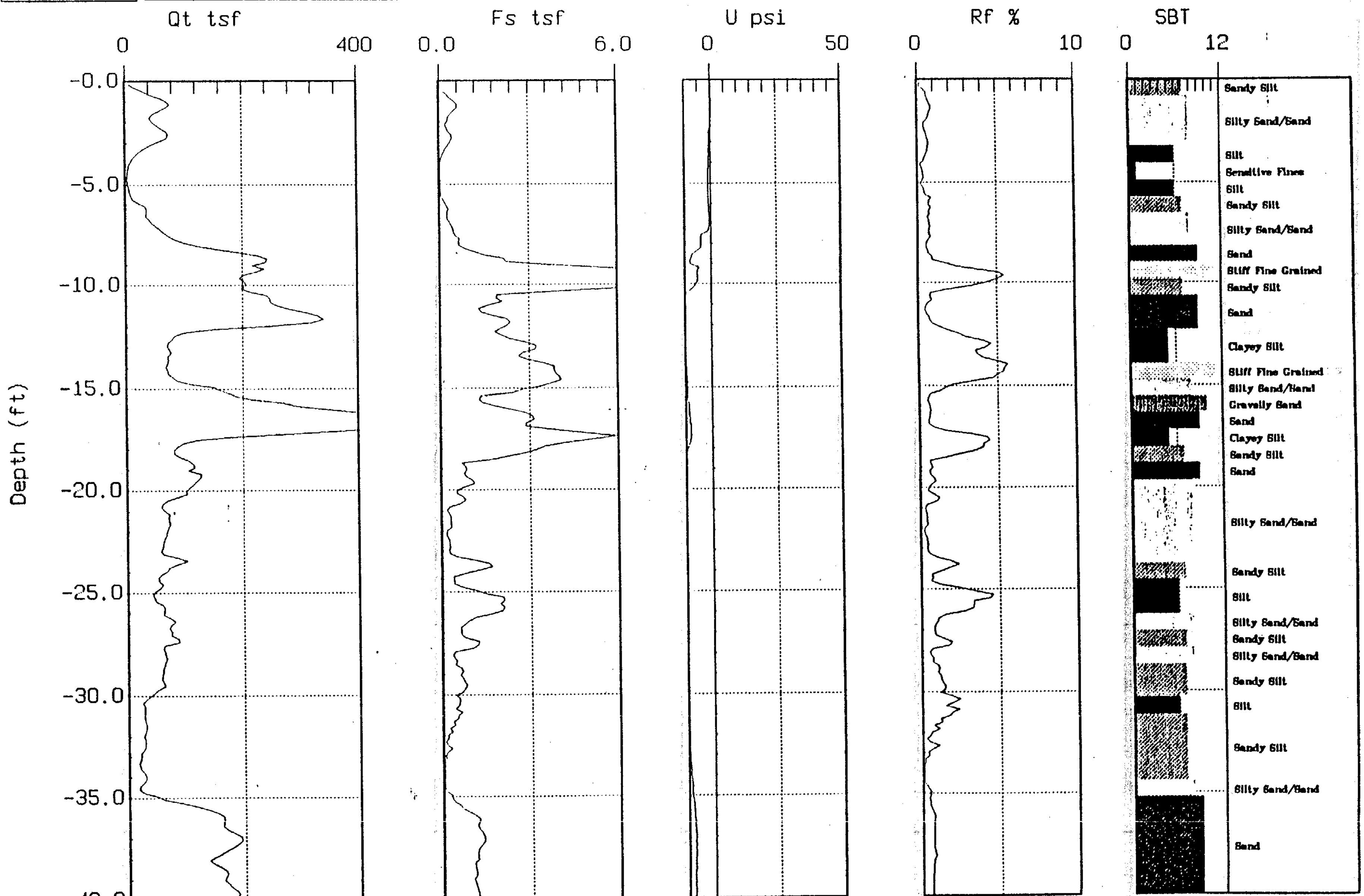
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : P10301

ENGINEER : B. BURNS
Date : 07:21:97 13:04



Max. Depth: 80.05 (ft)

Depth Inc.: 0.164 (ft)

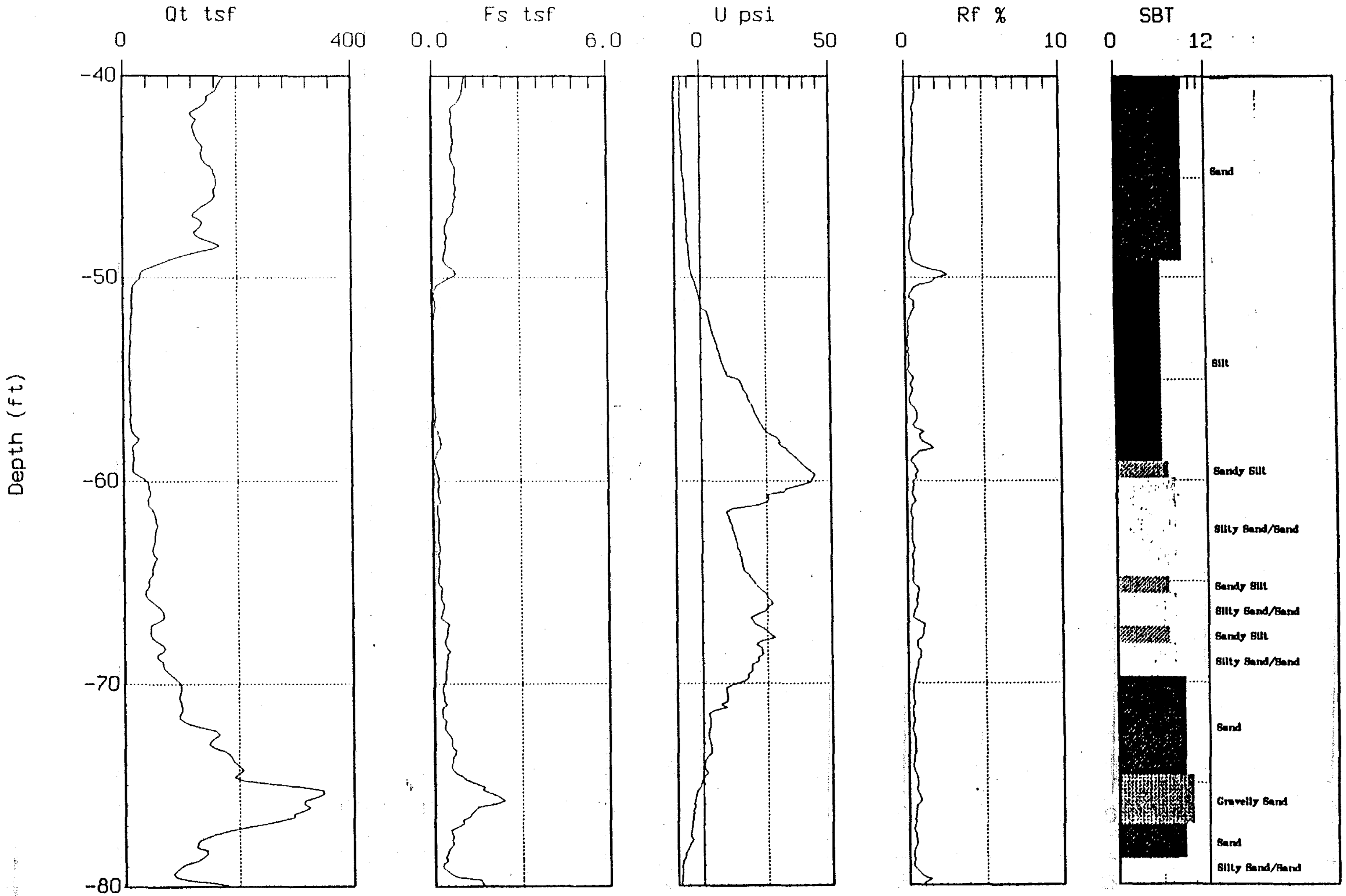
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : P10301

ENGINEER : B. BURNS
Date : 07:21:97 13:04



Max. Depth: 80.05 (ft)

Depth Inc.: 0.164 (ft)

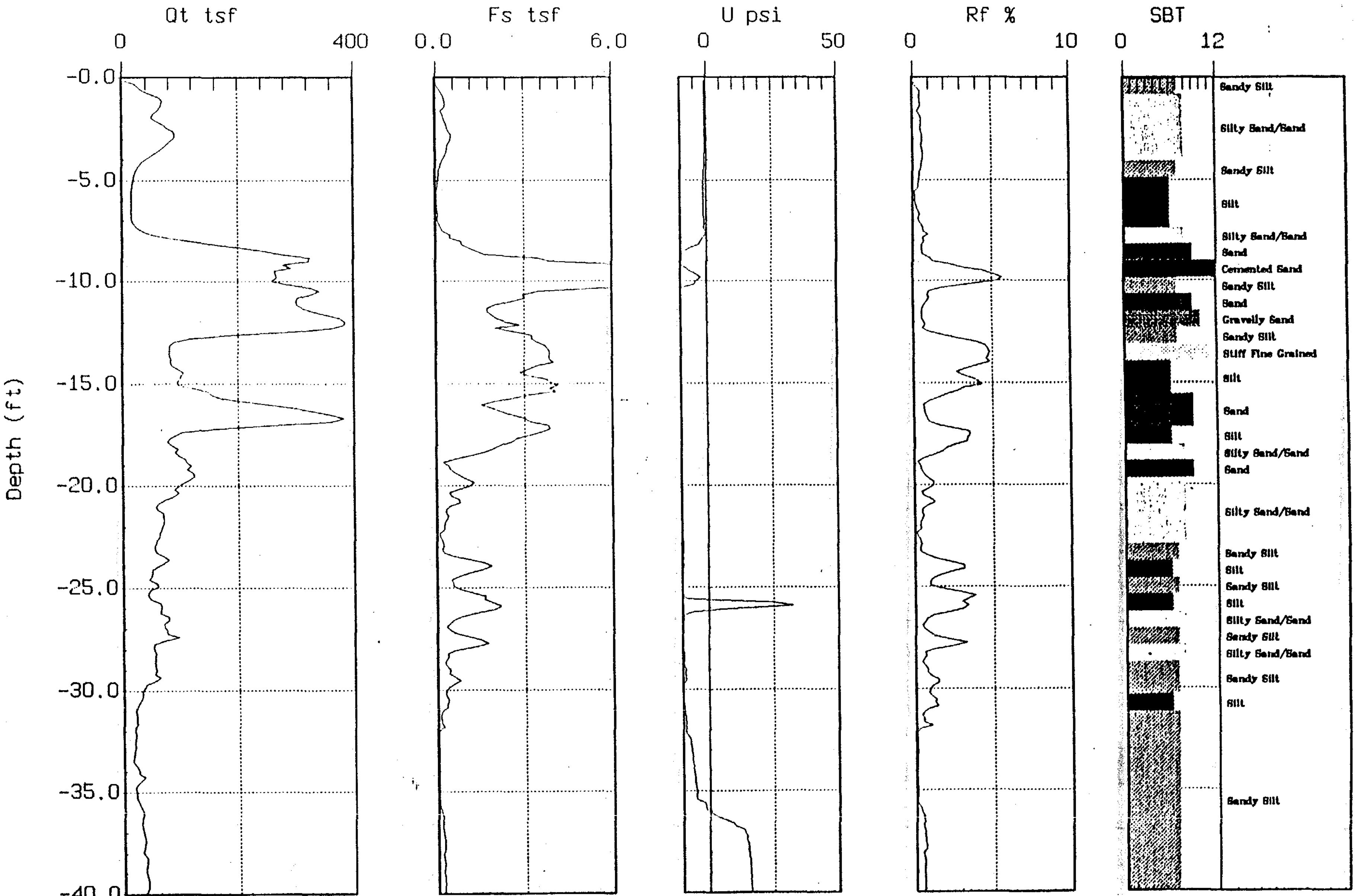
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : P10302

ENGINEER : B. BURNS
Date : 07:23:97 08:22



Max. Depth: 55.61 (ft)

Depth Inc.: 0.164 (ft)

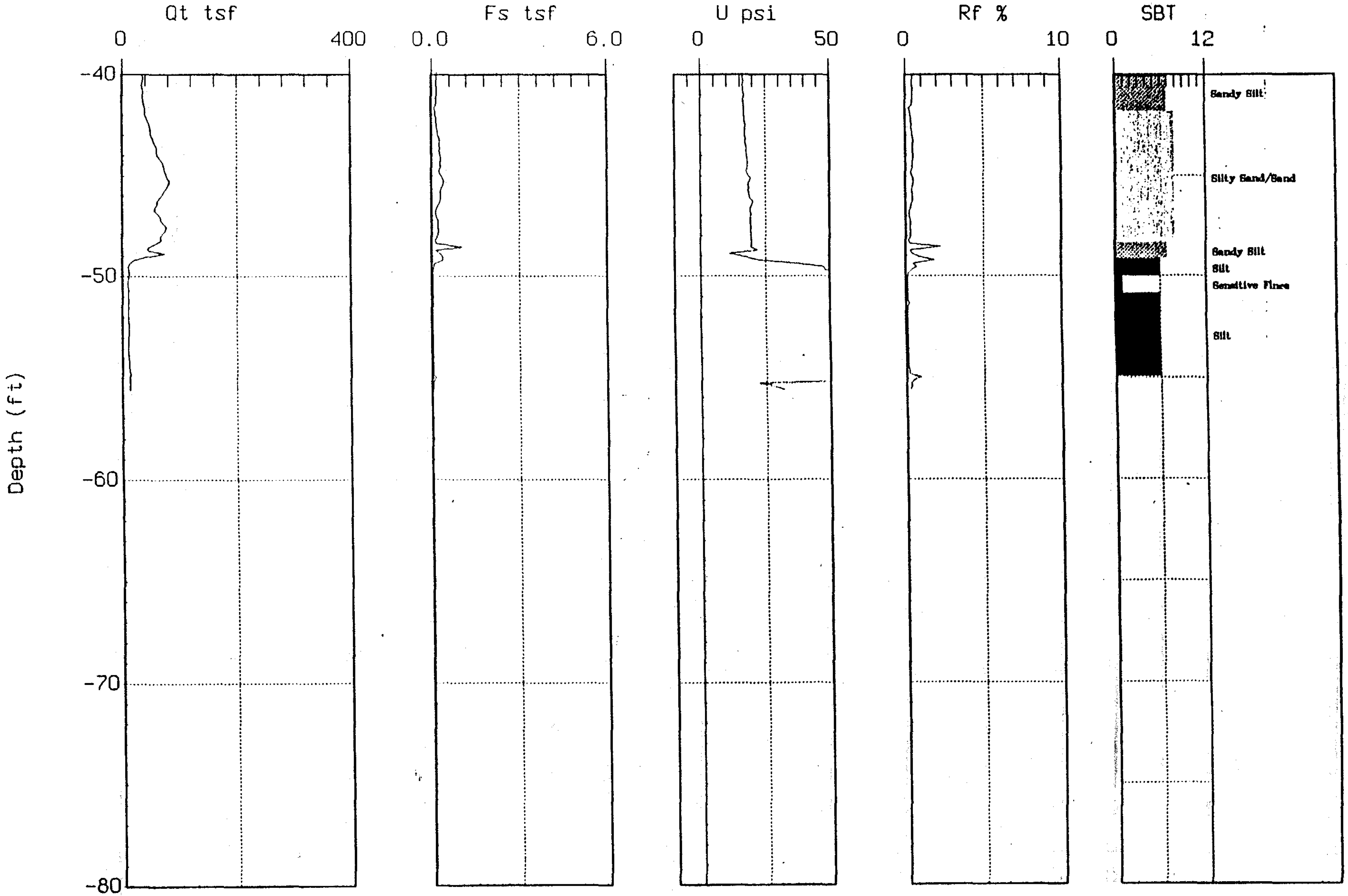
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : P10302

ENGINEER : B. BURNS
Date : 07:23:97 08:22



Max. Depth: 55.61 (ft)
Depth Inc.: 0.164 (ft)

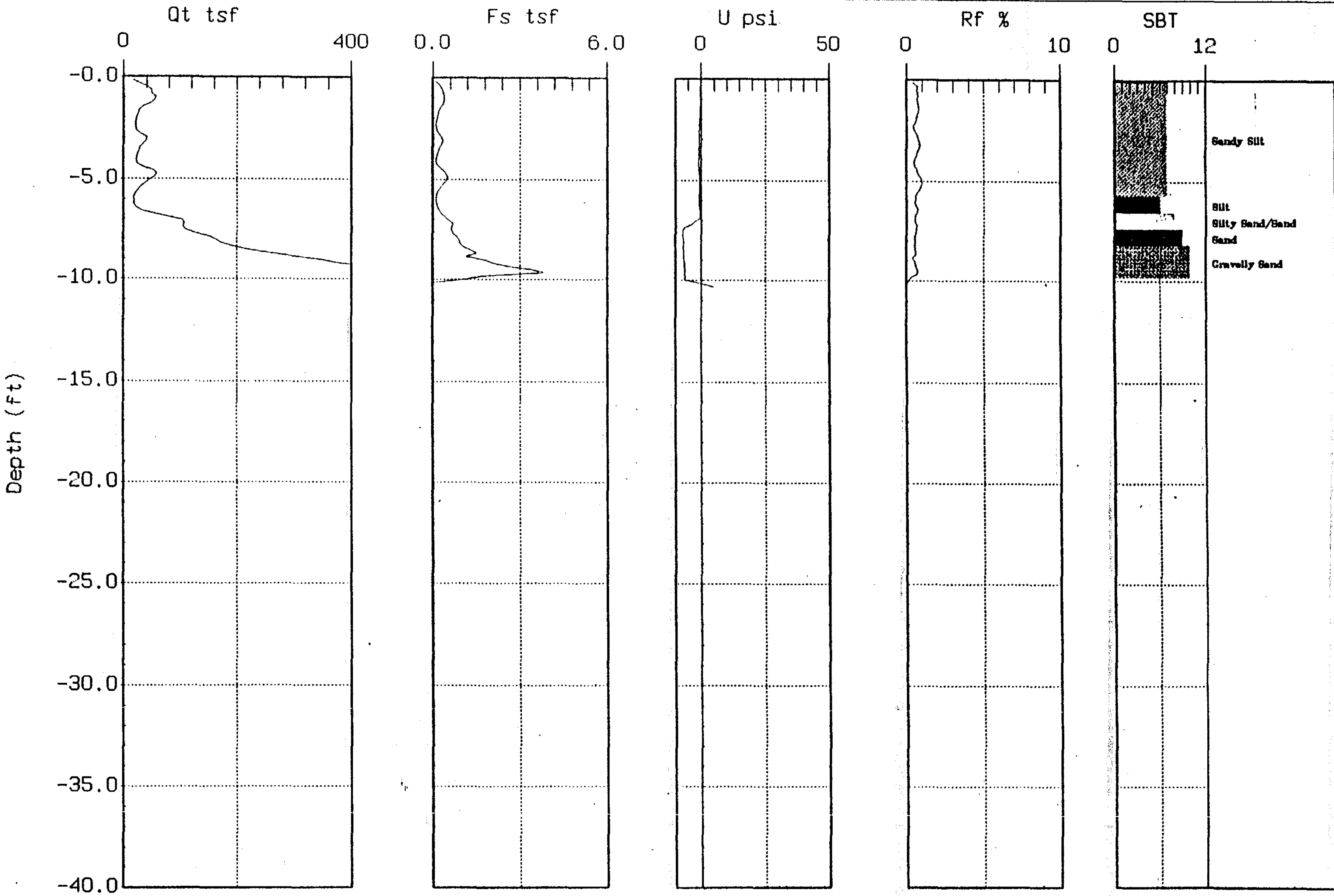
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : P10401

ENGINEER : B. BURNS
Date : 07:21:97 14:23



Max. Depth: 10.33 (ft)
Depth Inc.: 0.164 (ft)

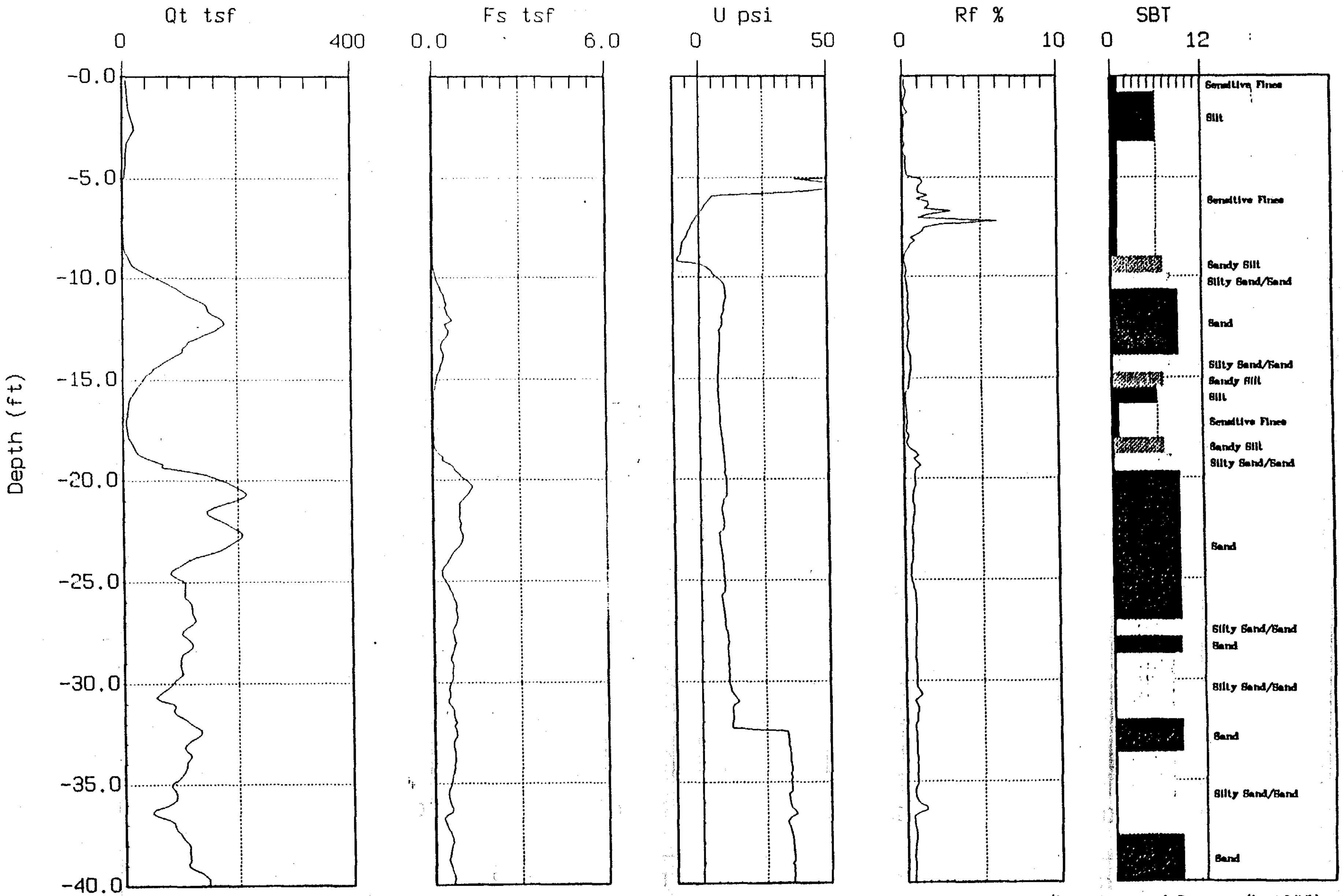
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : P10401

ENGINEER : B. BURNS
Date : 07:24:97 06:21



Max. Depth: 72.34 (ft)

Depth Inc.: 0.164 (ft)

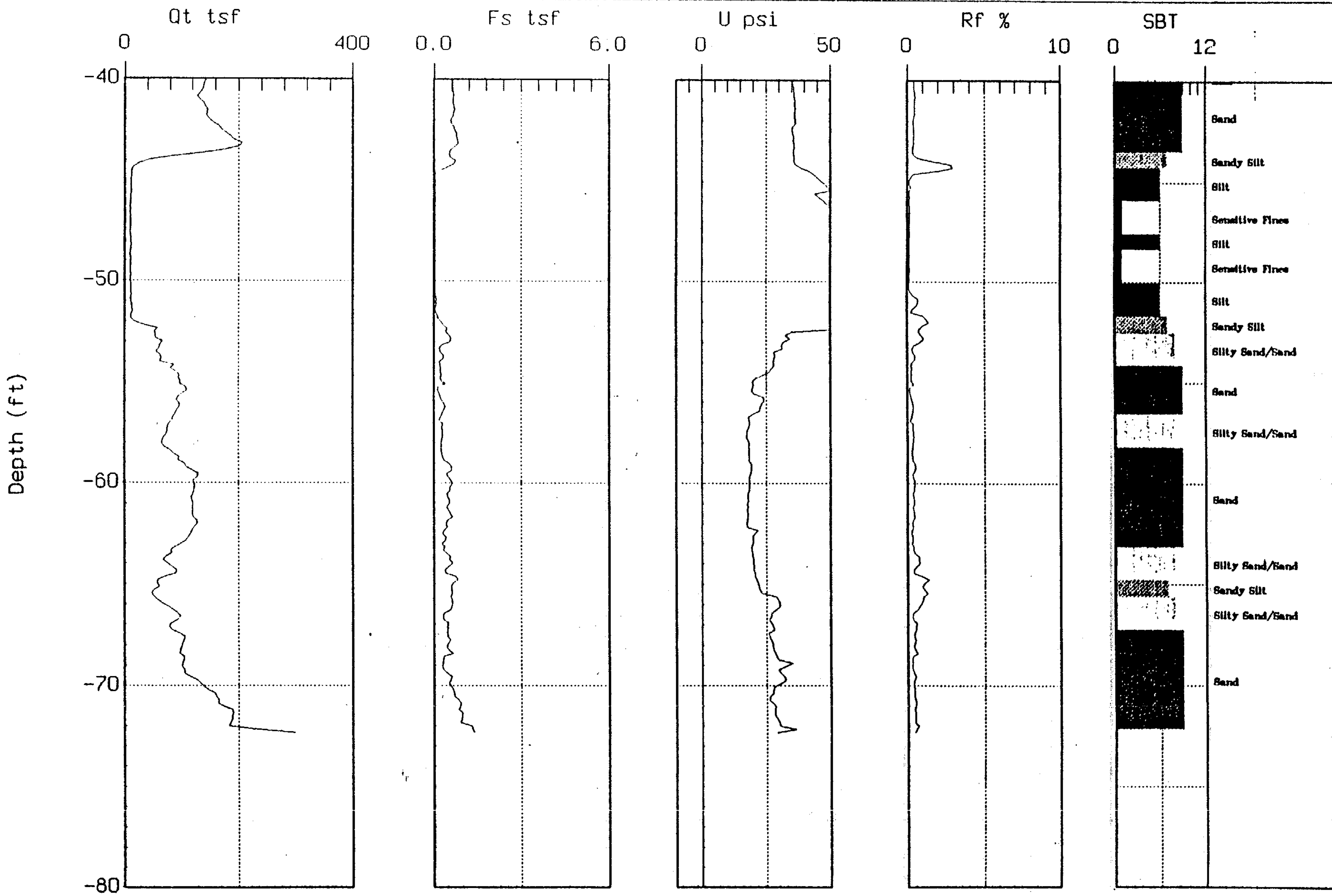
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : P10401

ENGINEER : B. BURNS
Date : 07:24:97 06:21



Max. Depth: 72.34 (ft)
Depth Inc.: 0.164 (ft)

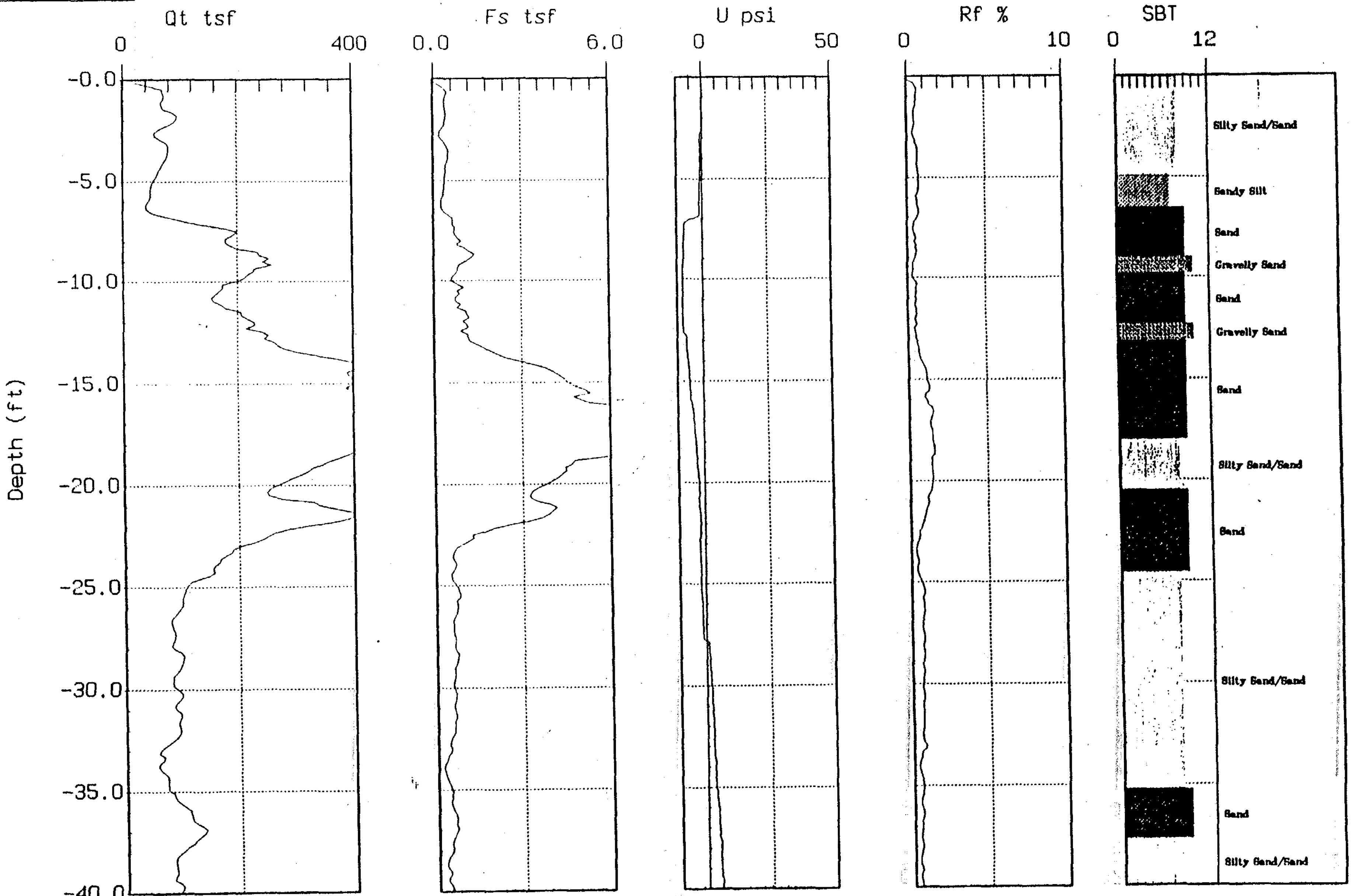
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : P10501

ENGINEER : B. BURNS
Date : 07:21:97 14:47



Max. Depth: 77.59 (ft)

Depth Inc.: 0.164 (ft)

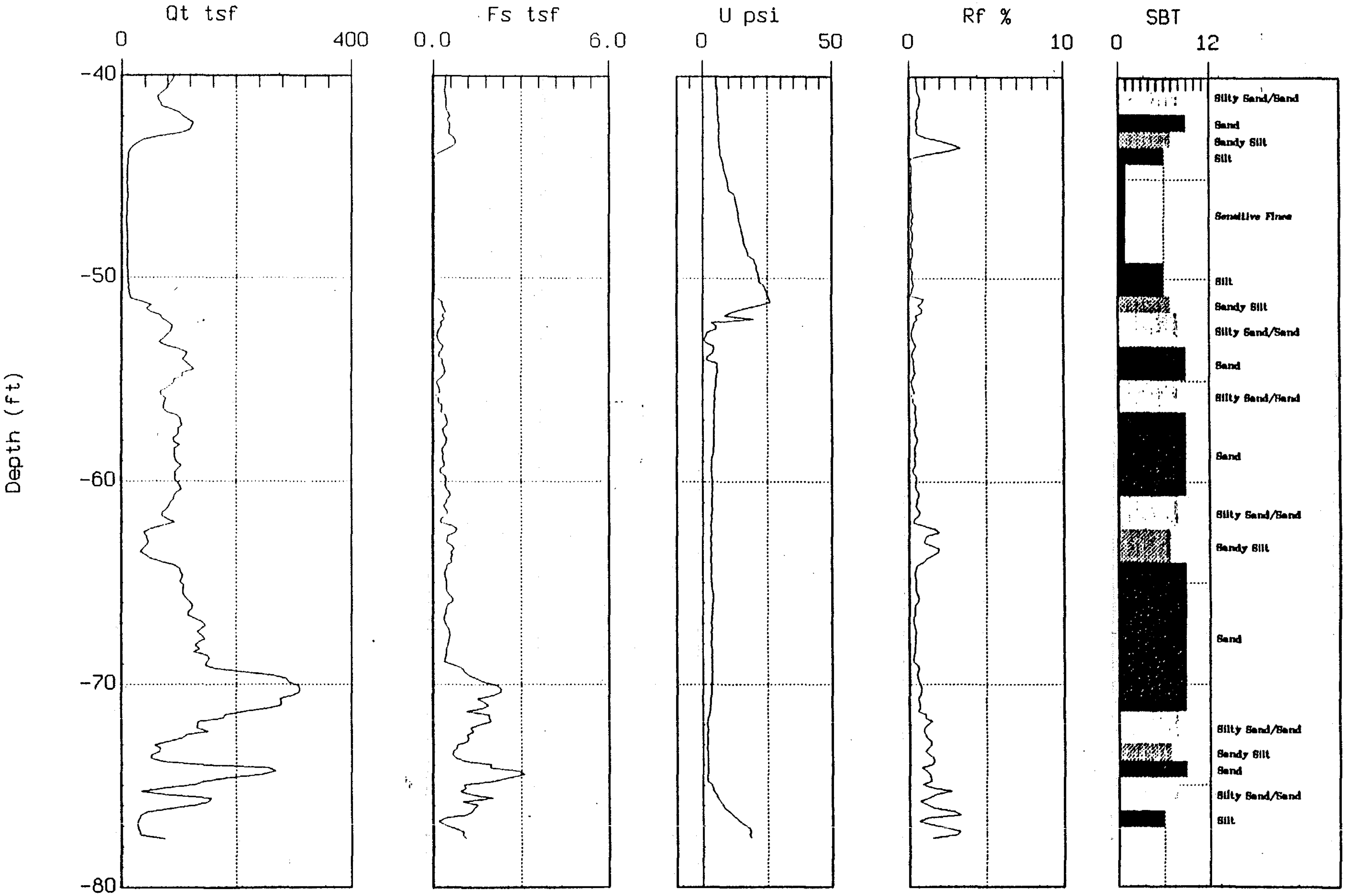
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : P10501

ENGINEER : B. BURNS
Date : 07:21:97 14:47



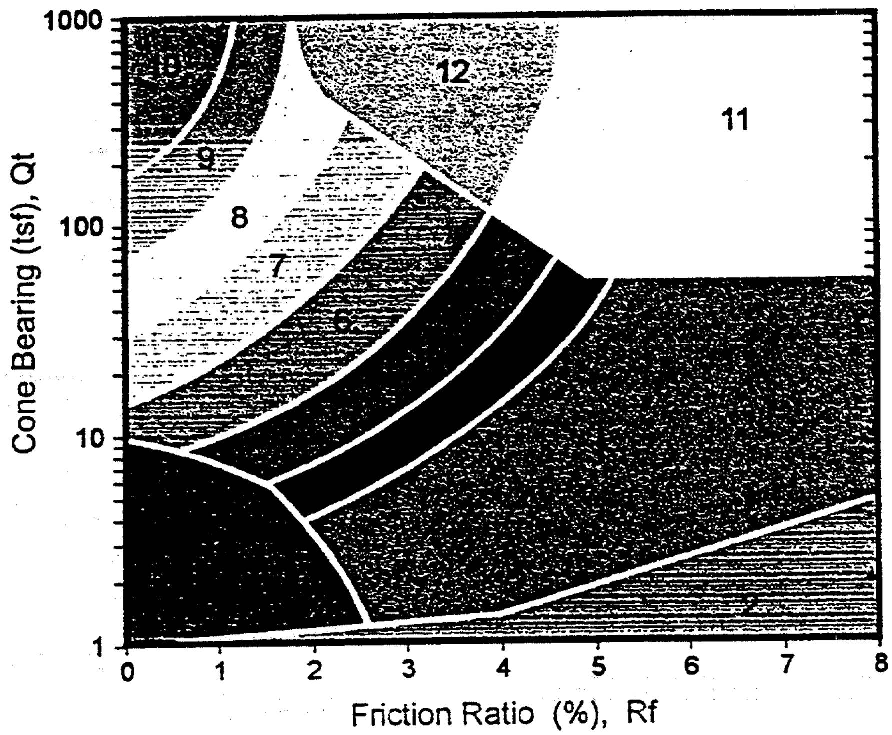
Max. Depth: 77.59 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

APPENDIX

CPT Classification Chart
(after Robertson and Campanella, 1988)



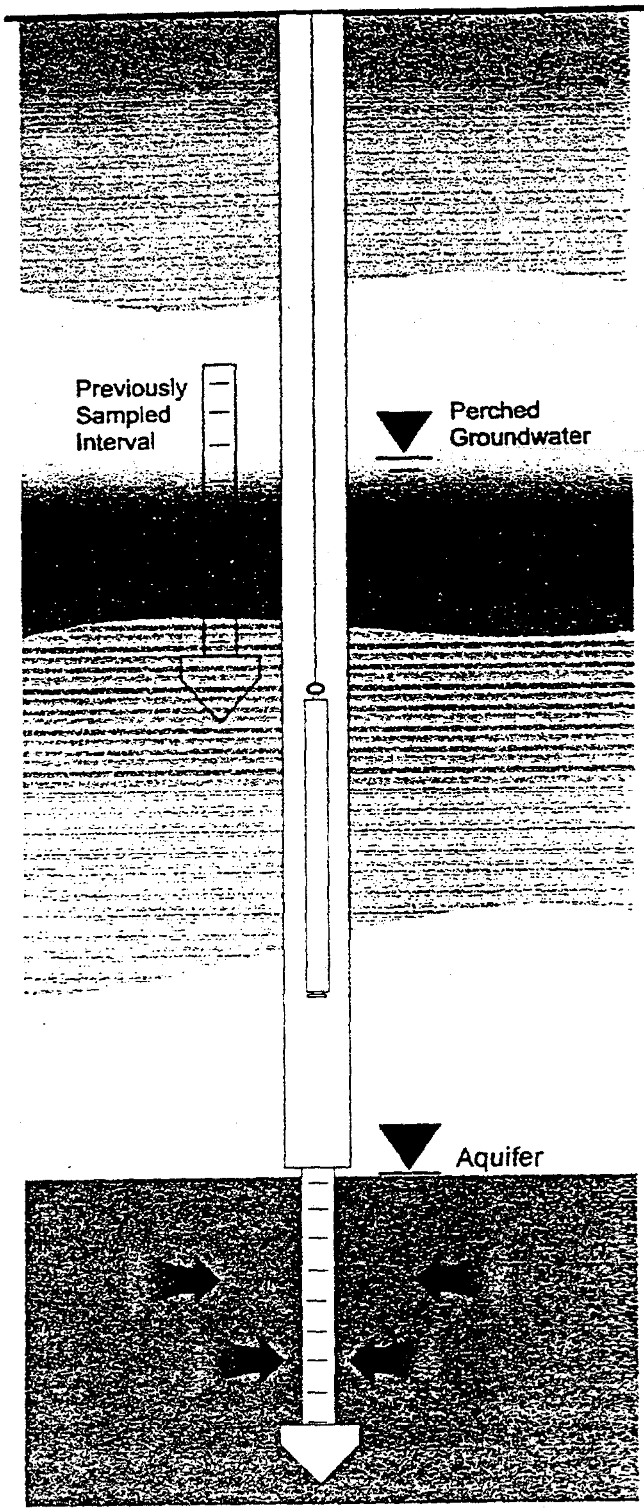
Zone	Qt / N	Soil Behaviour Type
1	2	sensitive fine grained
2	1	organic material
3	1	clay
4	1.5	silty clay to clay
5	2	clayey silt to silty clay
6	2.5	sandy silt to clayey silt
7	3	silty sand to sandy silt
8	4	sand to silty sand
9	5	sand
10	6	gravelly sand to sand
11	1	very stiff fine grained *
12	2	sand to clayey sand *

* overconsolidated or cemented

GREGG

Gregg In Situ, Inc.

Groundwater Sampling



A push-type groundwater sampler with a sealed screen section is used to collect discrete groundwater samples. Both 2 inch and 1 3/4 inch diameter samplers are used depending on the soil type and density. The smaller sampler can generally be pushed to greater depths.

The groundwater samplers have a retrievable stainless steel screen. This allows for multiple depth groundwater sampling using the same penetration hole. If slow recharge occurs or longer term monitoring is required, 3/4 inch PVC well points can be installed using the same samplers.

The groundwater sampler is pushed in a closed positon to the desired sampling interval. The sampler push rod is then retracted exposing the inlet screen. Groundwater flows hydrostatically from the formation into the inlet screen.

For floating layer hydrocarbons, a small diameter bailer (3/4 inch or 1/2 inch) is lowered through the hollow push rods, into the screen section for sample collection. For sampling of larger volume, nonvolatile groundwater samples, 1/4 inch tubing is lowered into the screen and a peristaltic or gas lift pump is used to retrieve the groundwater sample.

REFERENCES

Robertson, P.K. and Campanella, R.G. and Wightman, A., 1983 "SPT-CPT Correlations", Journal of the Geotechnical Division, ASCE, Vol. 109, No. GT11, Nov., pp. 1449-1460.

Robertson, P.K. and Campanella, R.G., 1985 "Evaluation of Liquefaction Potential of Sands Using the CPT", Journal of Geotechnical Division, ASCE, Vol. III, No. 3, Mar., pp. 384-407.

Robertson, P.K. and Campanella, R.G., Gillespie, D. and Grieg, J., 1986, "Use of Piezometer Cone Data", Proceedings of In Situ 86, ASCE Specialty Conference, Blacksburg, Virginia.

Robertson, P.K. and Campanella, R.G., 1988, "Guidelines for Use, Interpretation and Application of the CPT and CPTU", UBC, Soil Mechanics Series No. 105, Civil Eng. Dept., Vancouver, B.C., V6T 1W5, Canada; also available from Hogentogler and Co., P.O. Box 385, Gaithersburg, MD 20877, 3rd Edition, 197 pp.

Robertson, P.K., Campanella, R.G., Gillespie, D. and Rice, A., 1986, "Seismic CPT to Measure In Situ Shear Wave Velocity", Journal of Geotechnical Engineering, ASCE, Vol. 112, No. 8, pp. 791-803.

PRESENTATION OF CONE PENETRATION TEST DATA

NTC ORLANDO

HERNDON ANNEX
ORLANDO, FLORIDA

Prepared for:

ABB ENVIRONMENTAL SERVICES
Orlando, Florida

Prepared by:

GREGG IN SITU, INC.
Signal Hill, California

Prepared on:

November 18, 1997

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The cones were pushed using GREGG IN SITU's CPT rig, having a down pressure capacity of approximately 25 tons. Twenty CPT soundings were performed. The penetration tests were carried to depths of approximately 60 feet below ground surface. Test locations and depths were determined in the field by ABB ENVIRONMENTAL SERVICES personnel.

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We hope the information presented is sufficient for your purposes. If you have any questions, please do not hesitate to contact our office at (281) 354-7400.

Sincerely,
GREGG IN SITU, INC.

James Russell

James Russell
General Manager

TABLE 1

SUMMARY OF CPT AND GROUNDWATER DATA

HERNDON ANNEX
ORLANDO, FLORIDA

LOCATION	CPT DEPTH (ft)	DEPTH OF GROUNDWATER SAMPLE (ft)
02Q11001	53	
02Q11101	53	
02Q11201	60	23, 33, 43, 53
02Q11301	60	23, 33, 43, 53
02Q11401	60	23, 33, 43, 51
02Q11501	60	23, 33, 43, 53
02Q11601	60	23, 33, 43, 56
02Q11701	60	23, 33, 43, 53
02Q11801	60	18, 25, 33, 41
02Q11901	60	23, 33, 43, 53
02Q12001	60	20, 30, 45, 52
02Q12101	60	28, 35, 44, 53
02Q12201	60	20, 33, 46, 56
02Q12301	60	16, 20, 30, 40, 50
02Q12401	60	23, *23, *23, 58
02Q12701	60	23, 33, 43, 53
02Q12801	60	20, 27, 36, 44
02Q12901	60	23, 33, 43, 56
02Q13001	60	23, 35, 45, 58

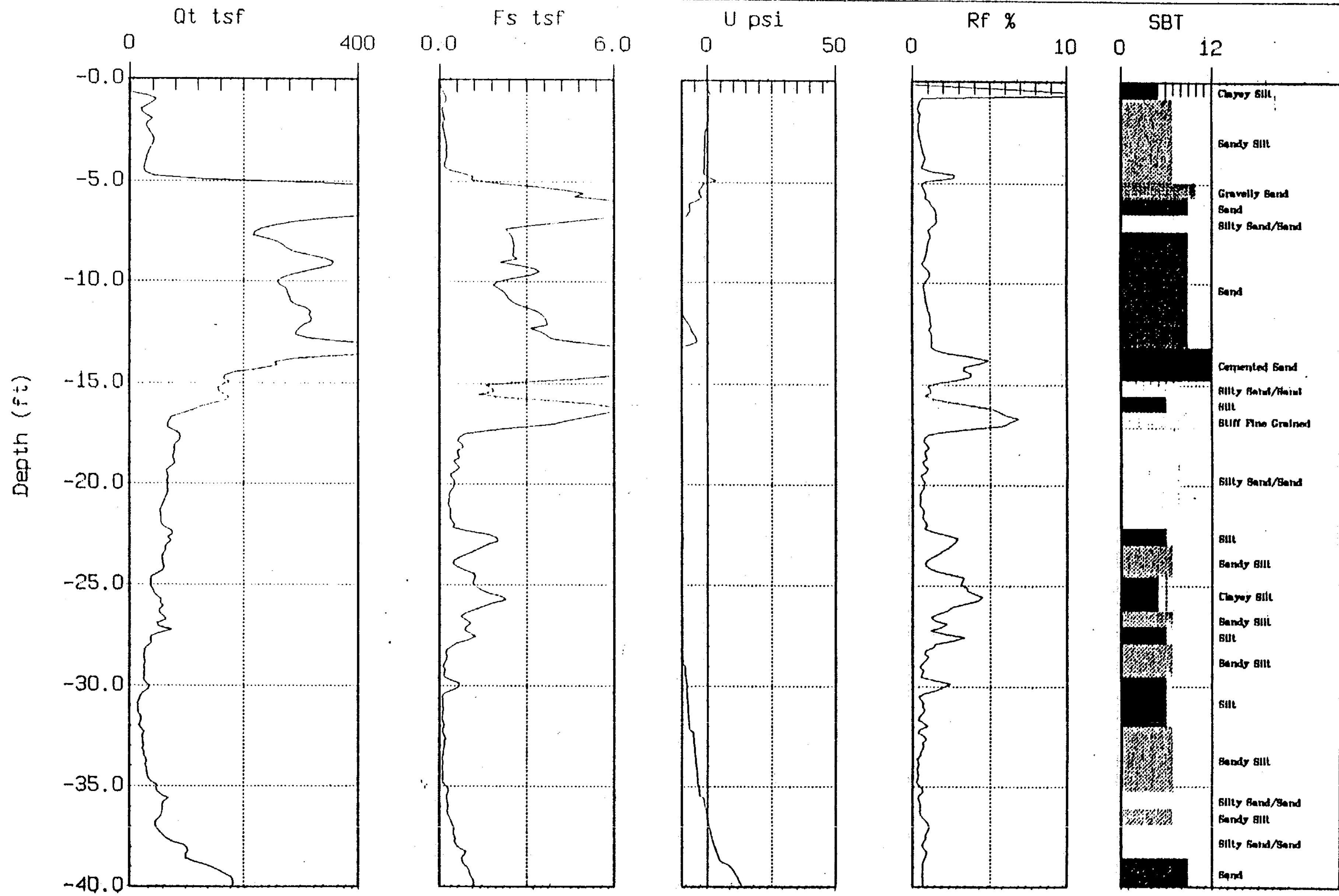
* = Refusal

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02011001

ENGINEER : B. BURNS
Date : 09:10:97 07:07



Max. Depth: 53.97 (ft)

Depth Inc.: 0.164 (ft)

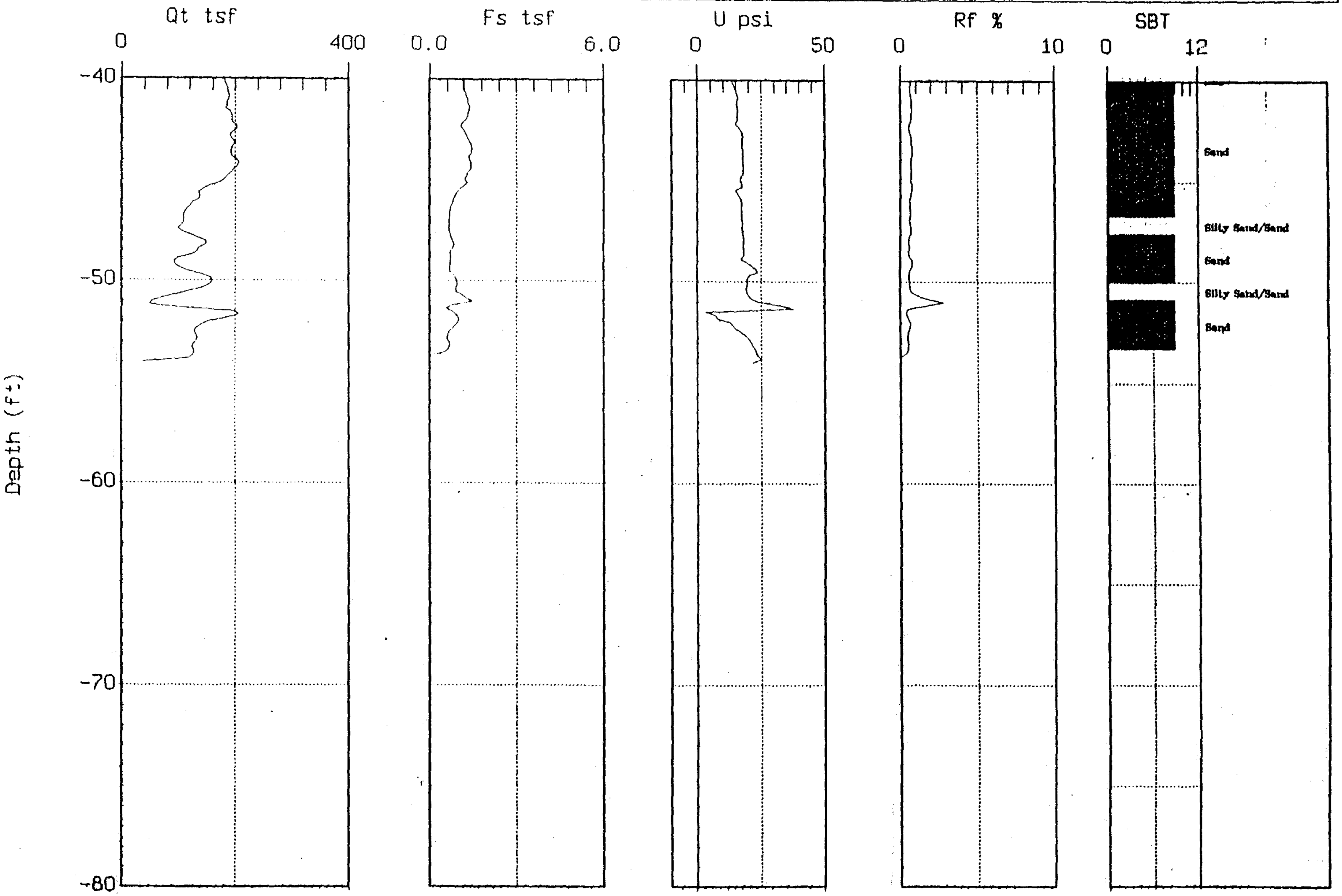
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02Q11001

ENGINEER : B. BURNS
Date : 09:10:97 07:07



Max. Depth: 53.97 (ft)

Depth Inc.: 0.164 (ft)

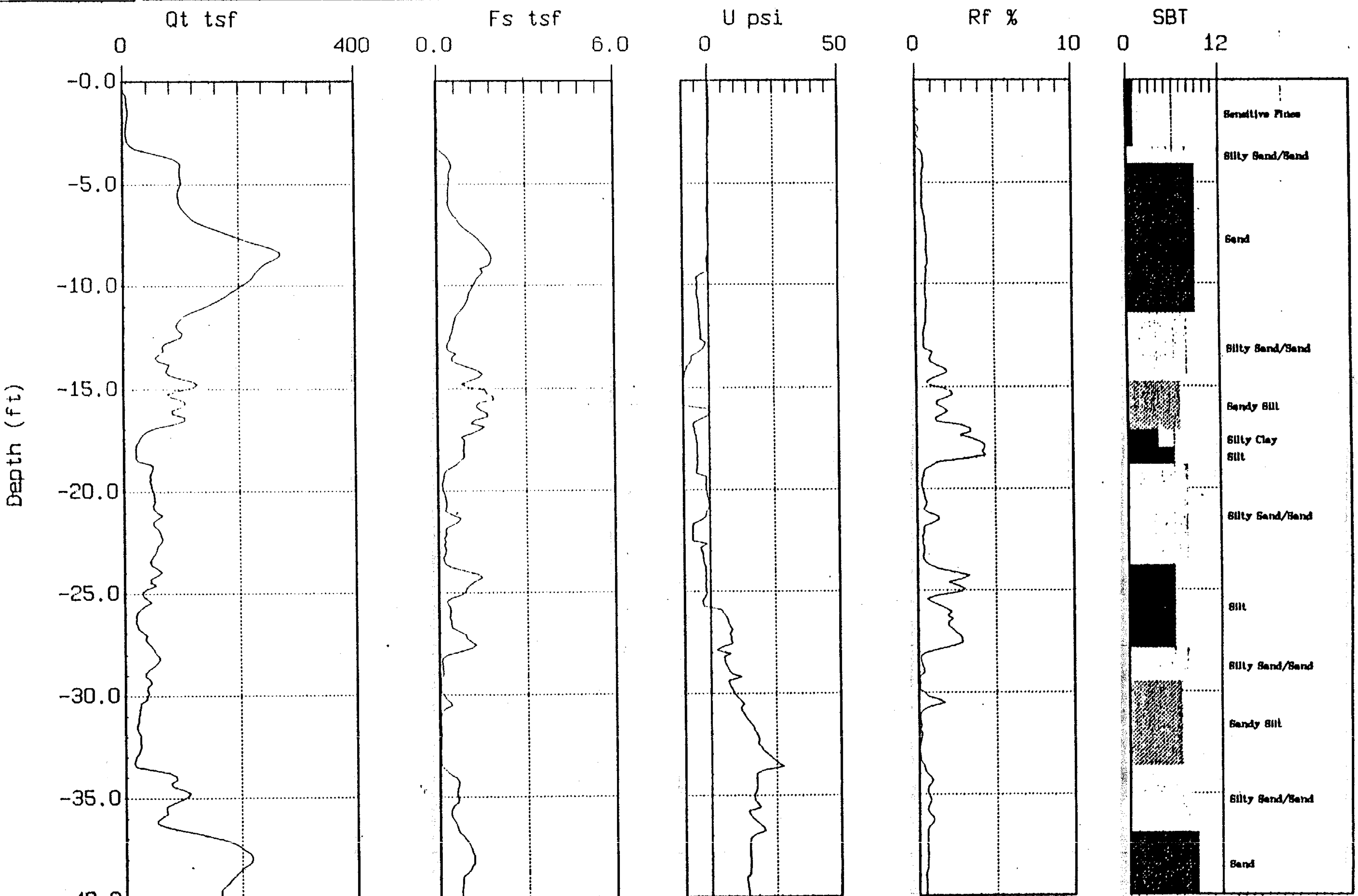
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02011101

ENGINEER : B. BURNS
Date : 09:10:97 11:12

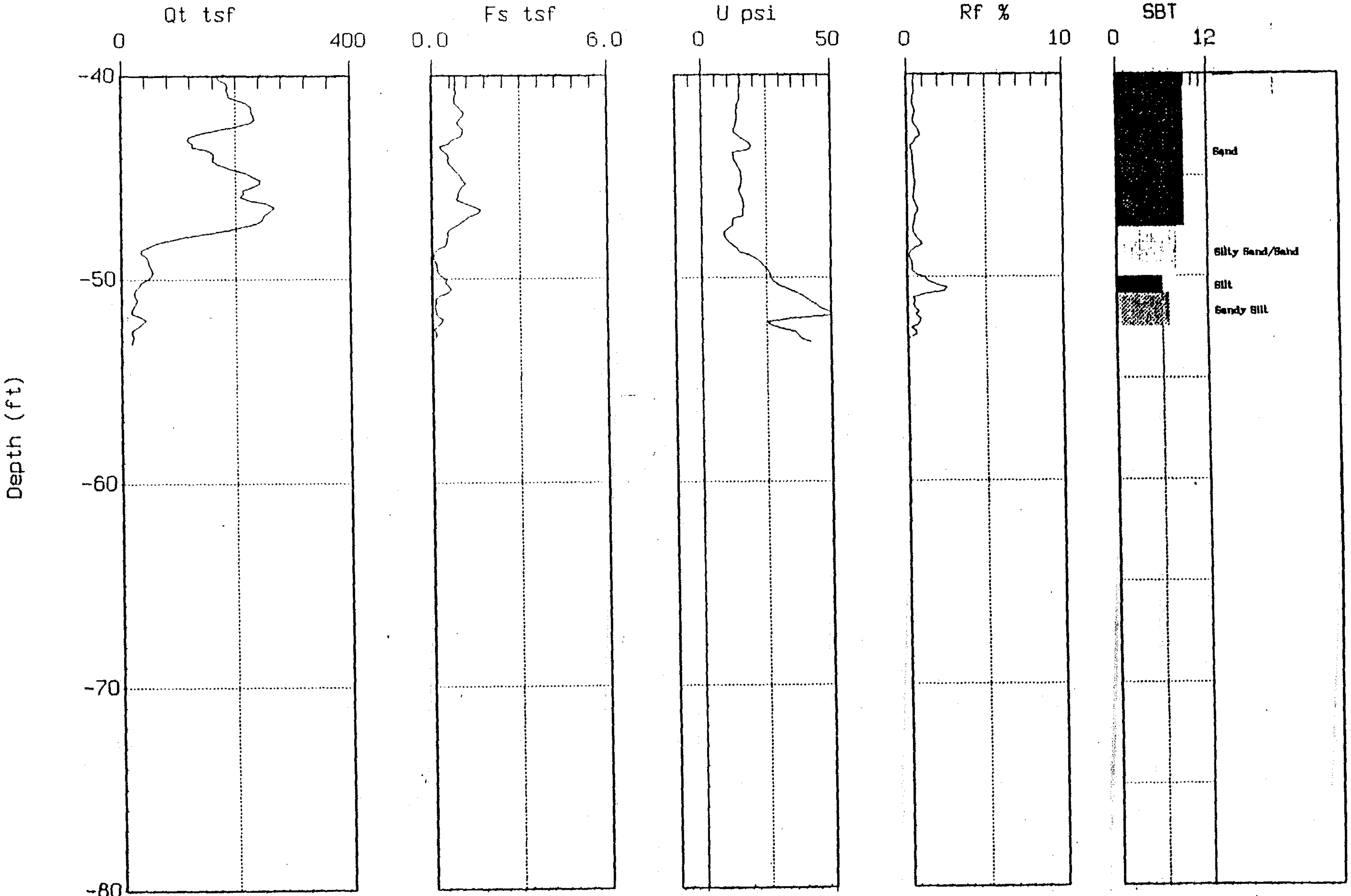


Max. Depth: 53.15 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG	ABB ENV.	Site : HERNDON ANNEX Location : 02011101	ENGINEER : B. BURNS Date : 09:10:97 11:12



Max. Depth: 53.15 (ft)
Depth Inc.: 0.164 (ft)

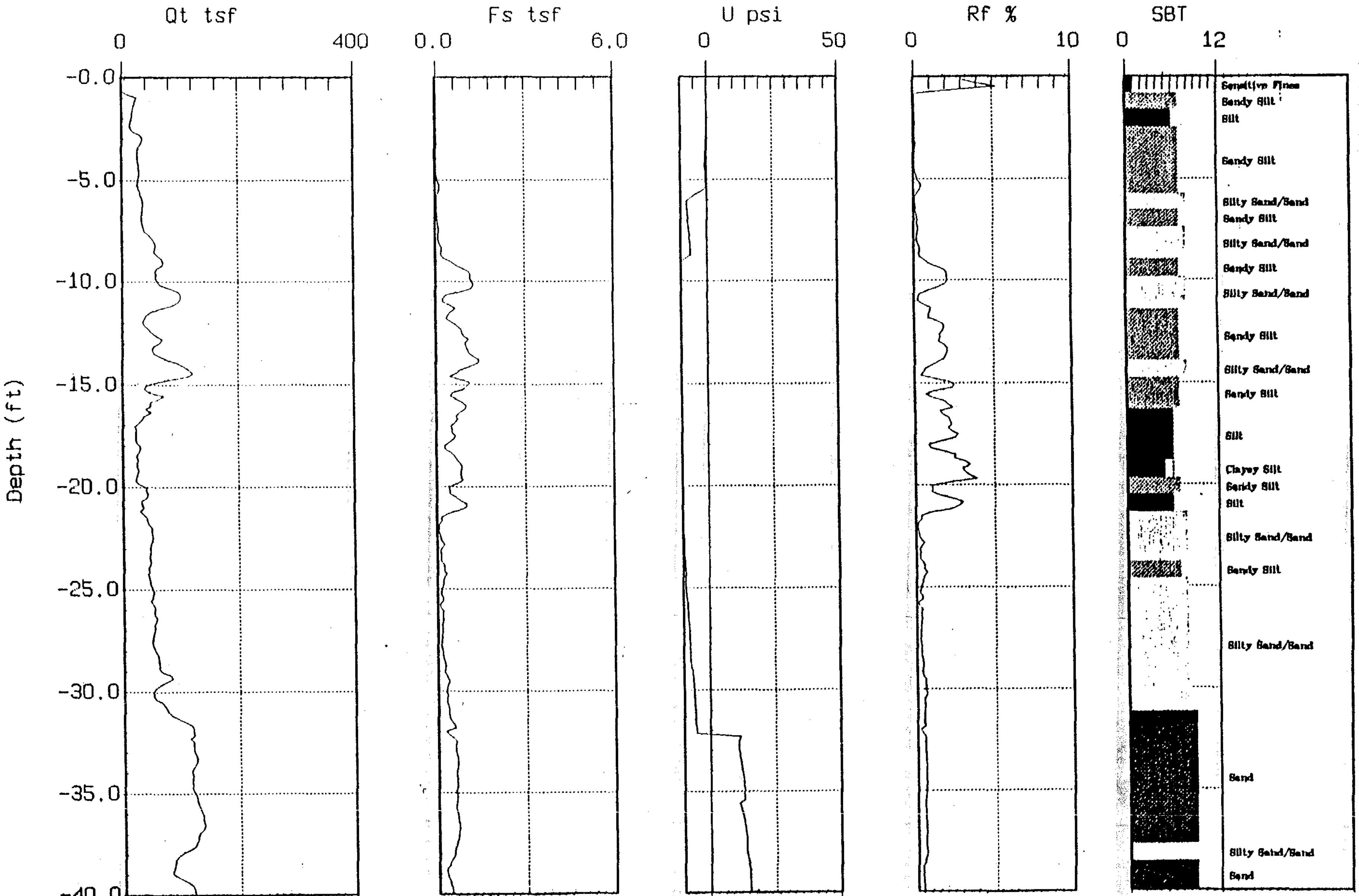
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02Q11201

ENGINEER : B. BURNS
Date : 09:11:97 06:12



Max. Depth: 60.04 (ft)

Depth Inc.: 0.164 (ft)

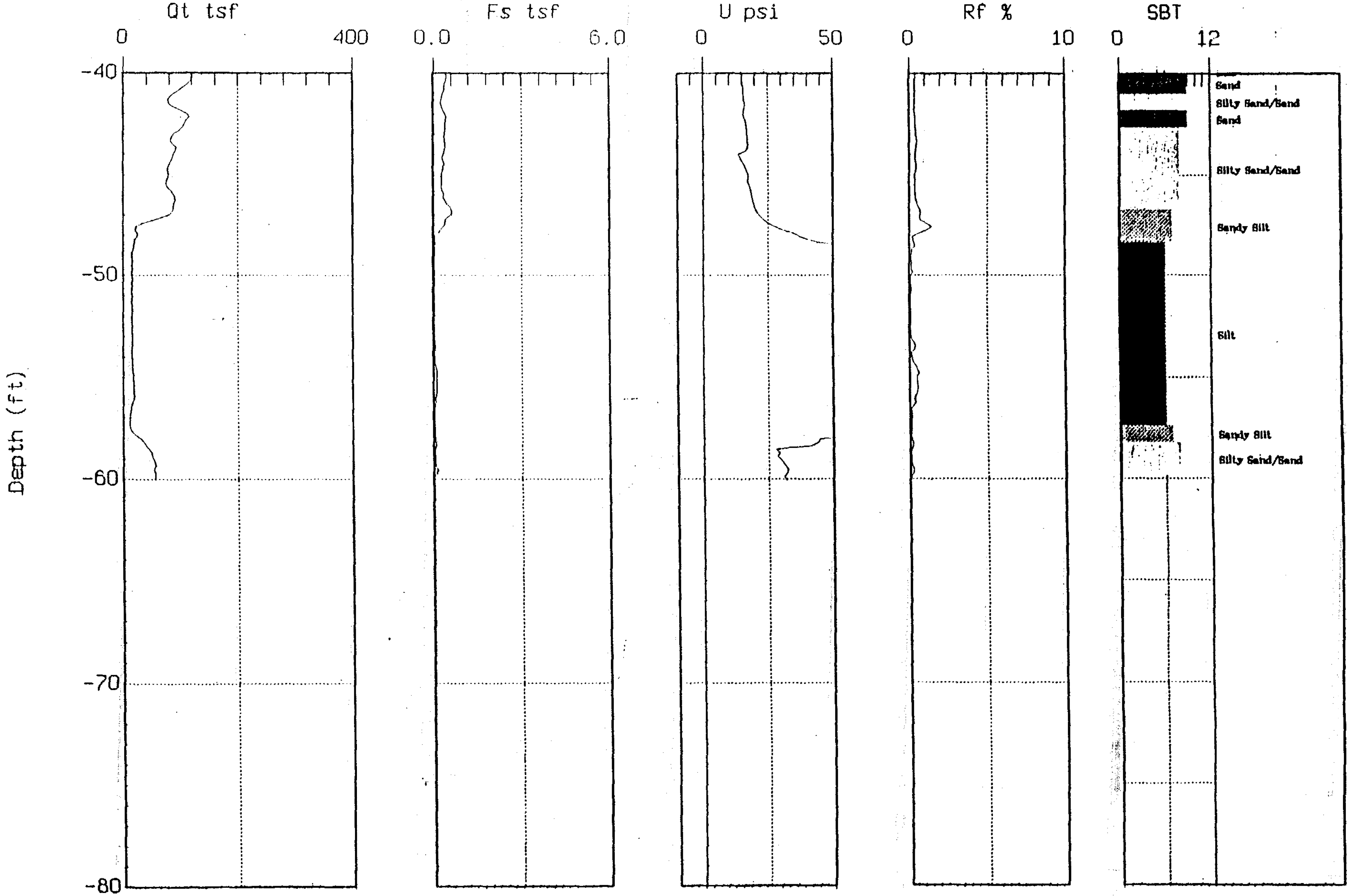
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02011201

ENGINEER : B. BURNS
Date : 09:11:97 06:12



Max. Depth: 60.04 (ft)
Depth Inc.: 0.164 (ft)

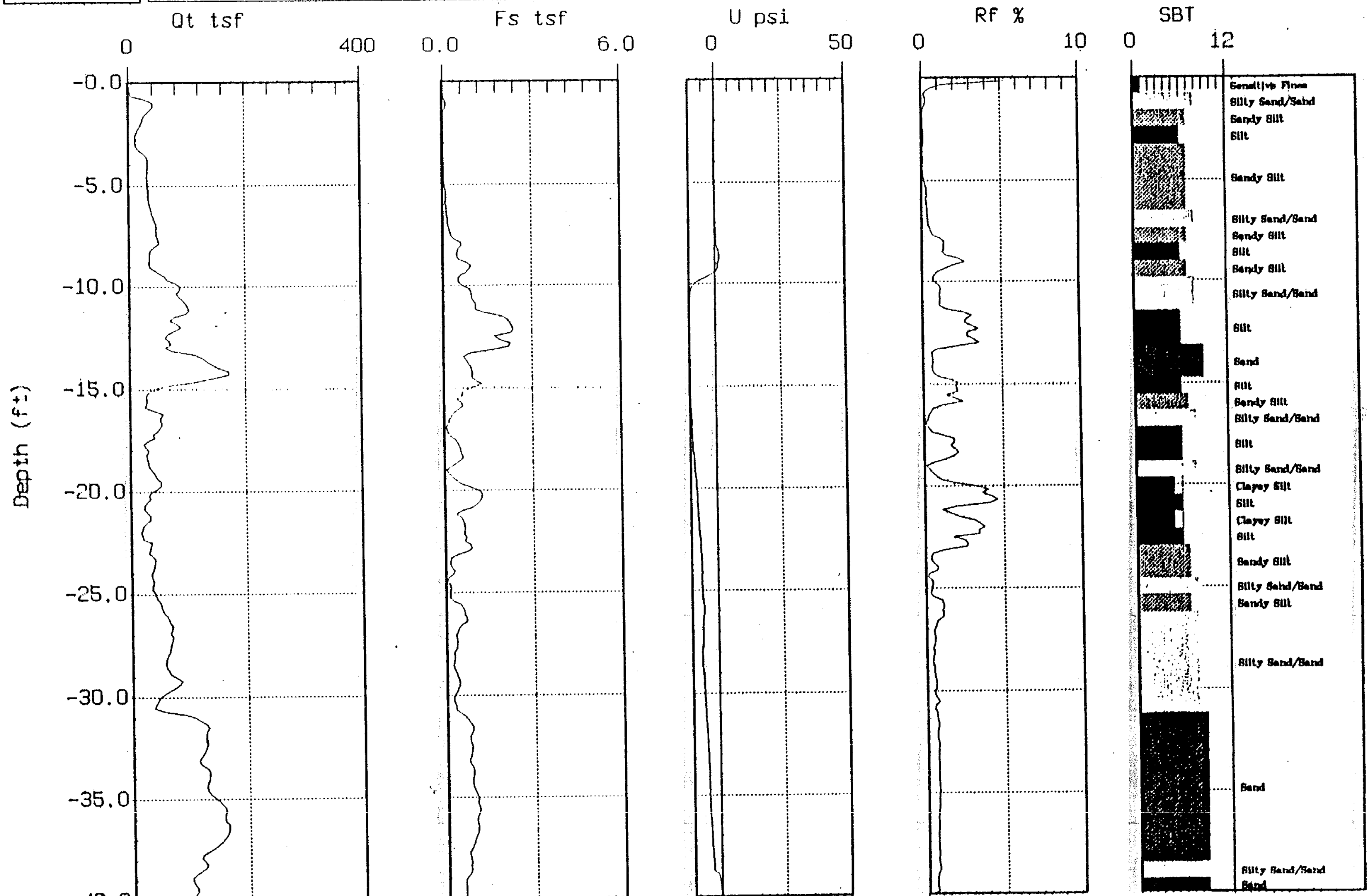
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02011301

ENGINEER : B. BURNS
Date : 09:11:97 13:05



Max. Depth: 60.86 (ft)

Depth Inc.: 0.164 (ft)

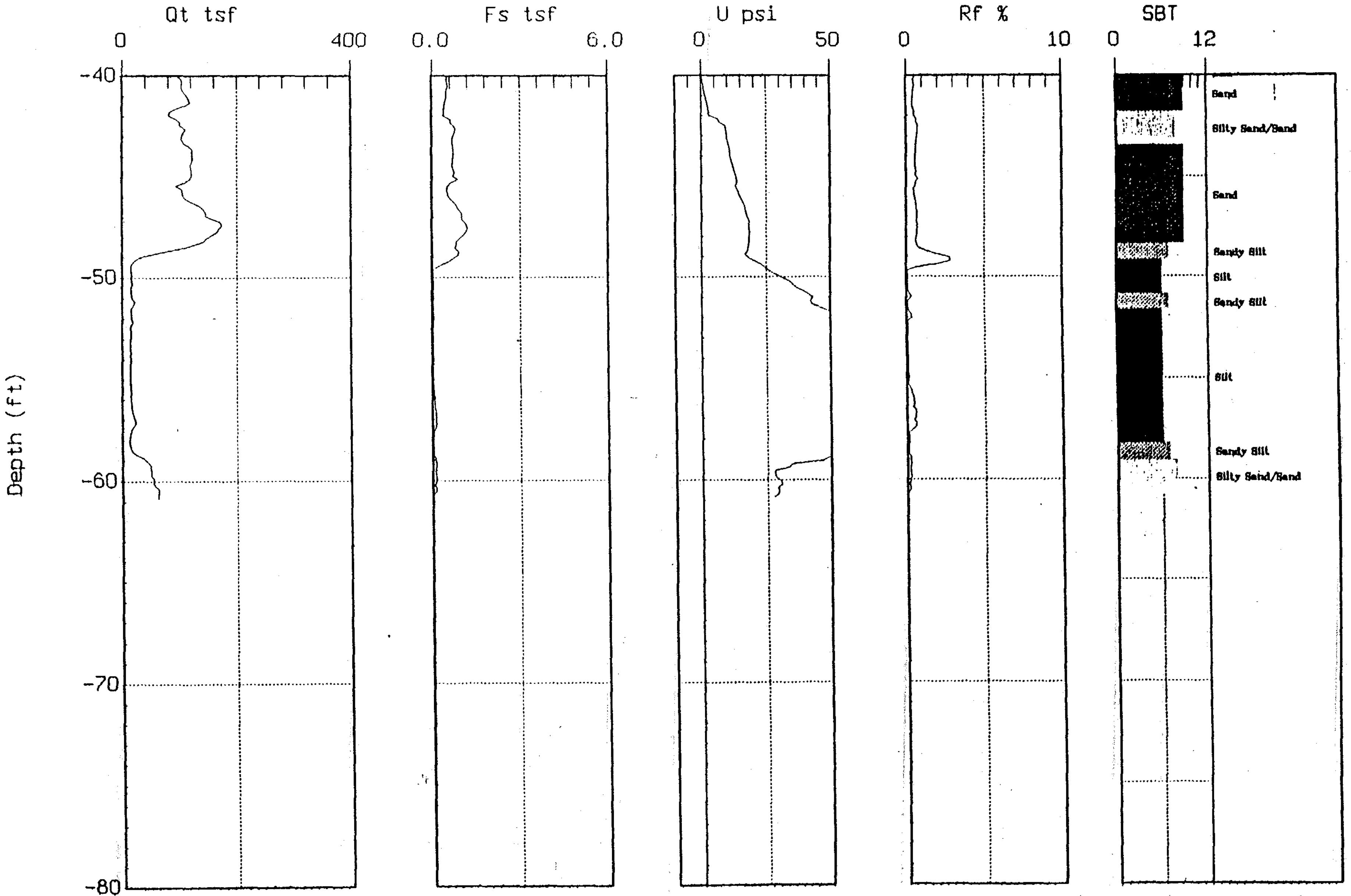
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02Q11301

ENGINEER : B. BURNS
Date : 09:11:97 13:05



Max. Depth: 60.86 (ft)

Depth Inc.: 0.164 (ft)

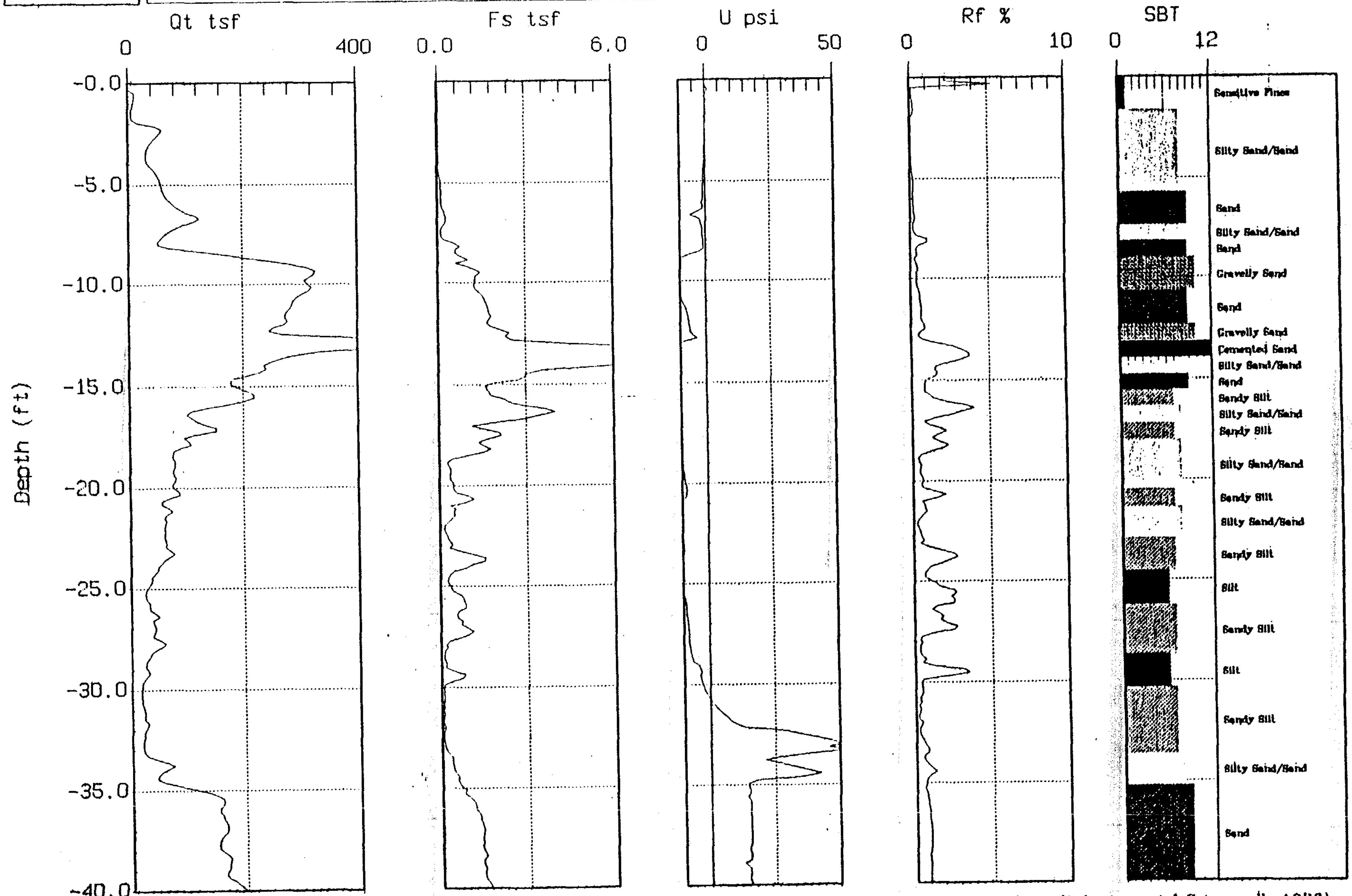
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02011401

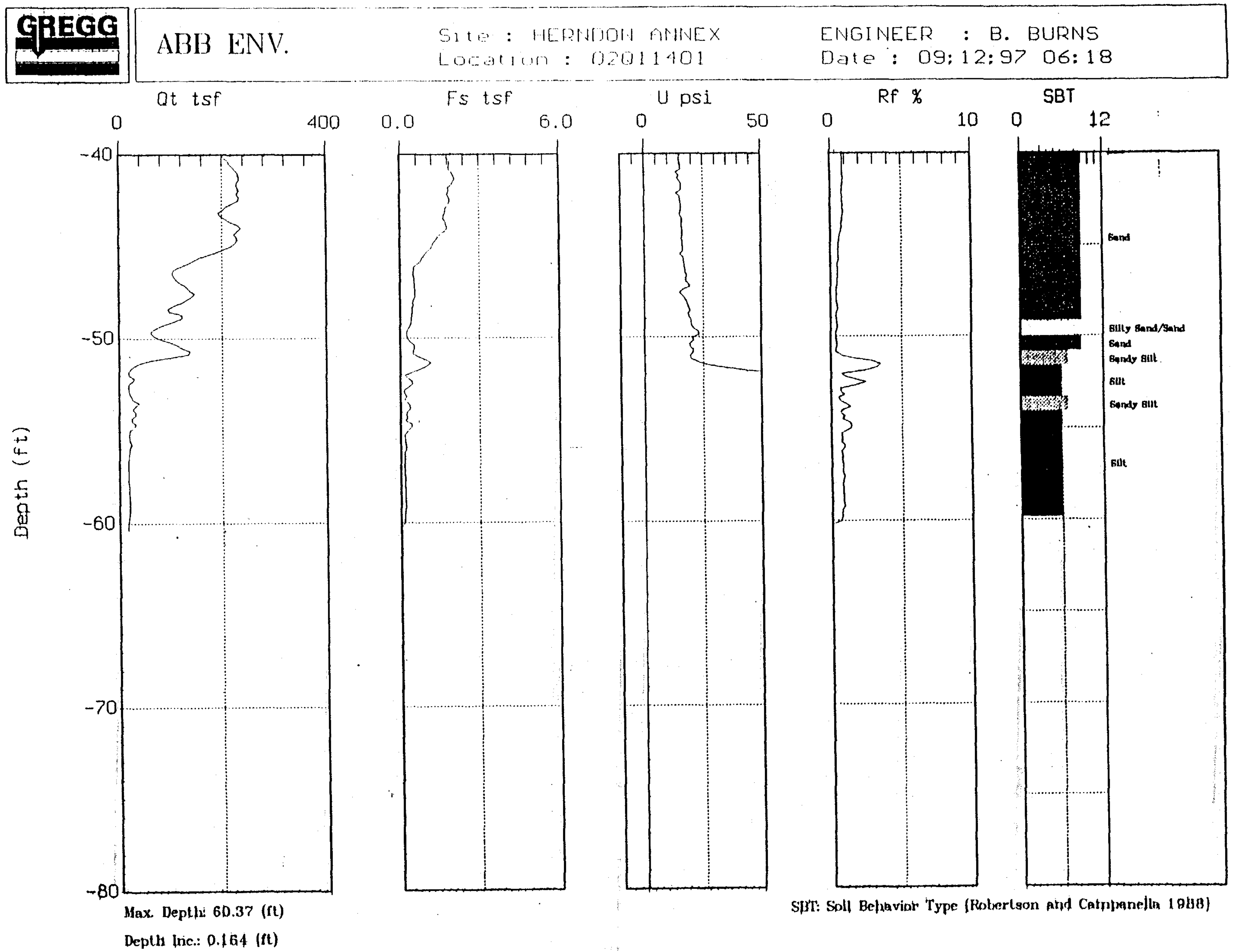
ENGINEER : B. BURNS
Date : 09:12:97 06:18



Max. Depth: 60.37 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

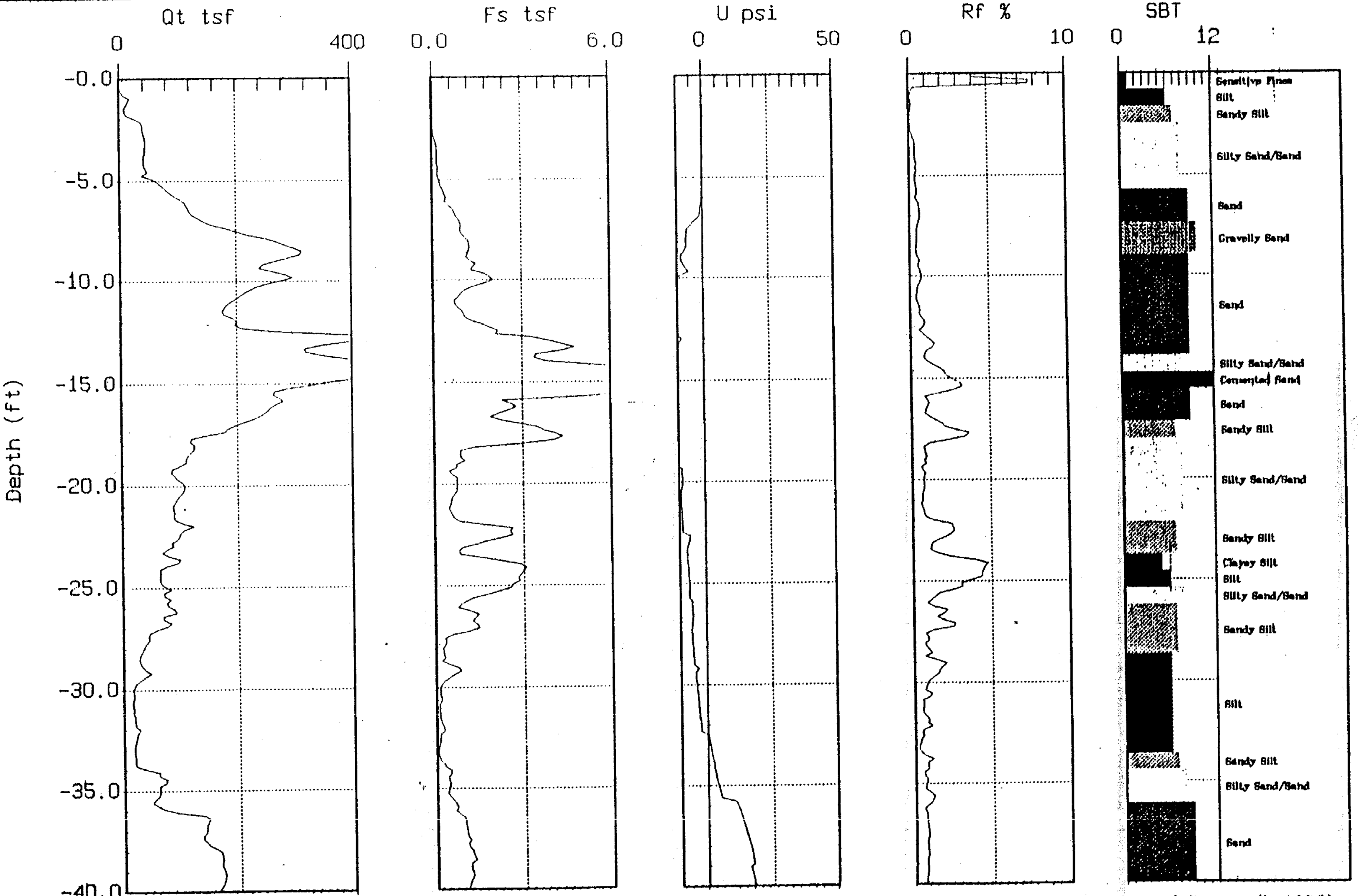

GREGG
ABB ENV.
Site : HERNDON ANNEX
Location : 02011401
ENGINEER : B. BURNS
Date : 09:12:97 06:18
Qt tsf
0
400
Fs tsf
0.0
6.0
U psi
0
50
Rf %
0
10
SBT
0
12
Depth (ft)
-40
-50
-60
-70
-80
Sand
Silty Sand/Sand
Sand
Sandy Silt
Silt
Sandy Silt
Silt
Max. Depth: 60.37 (ft)
Depth Inc.: 0.164 (ft)
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02011501

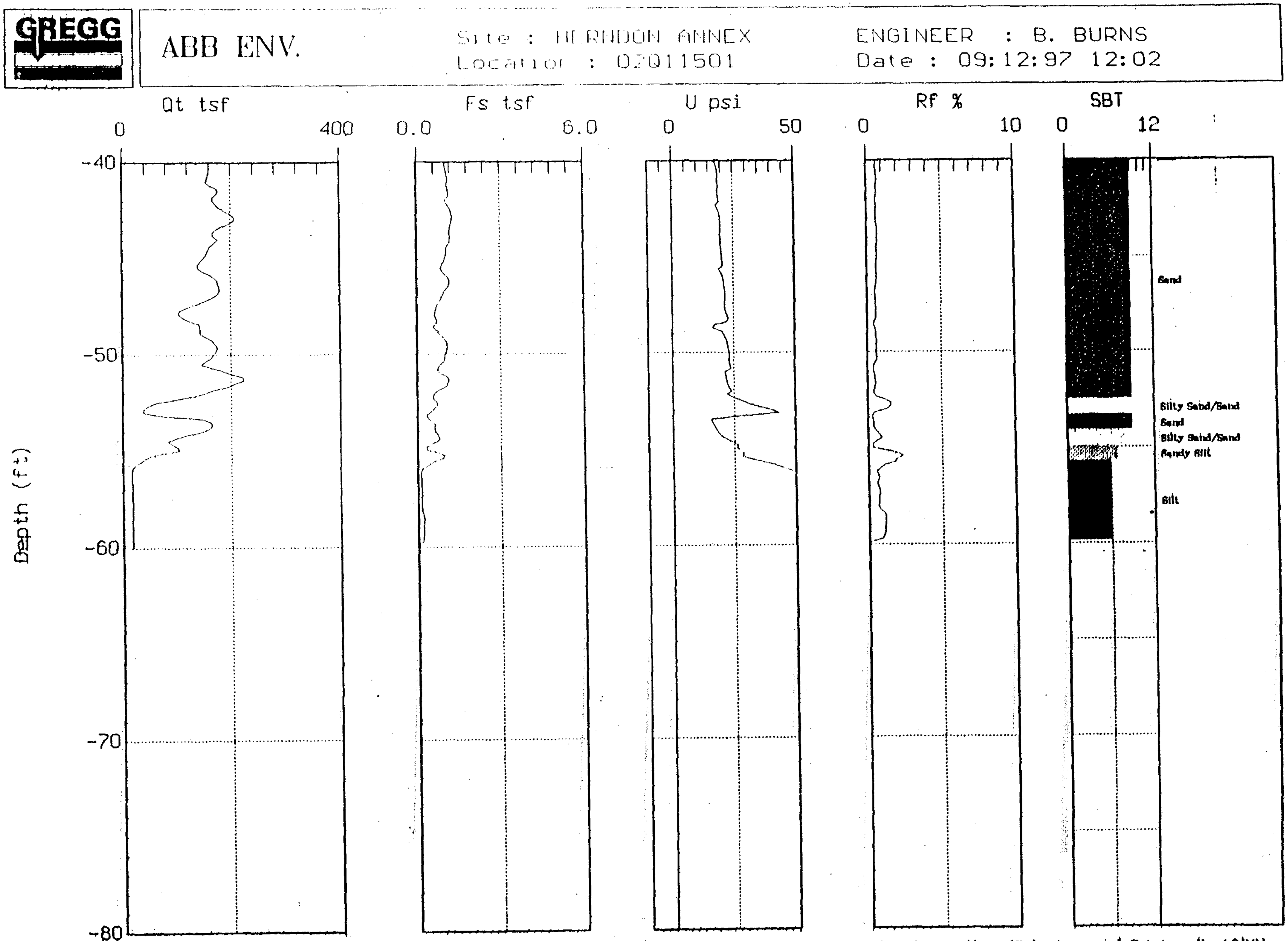
ENGINEER : B. BURNS
Date : 09:12:97 12:02



Max. Depth: 60.04 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)



Max. Depth: 60.04 (ft)

Depth Inc.: 0.164 (ft)

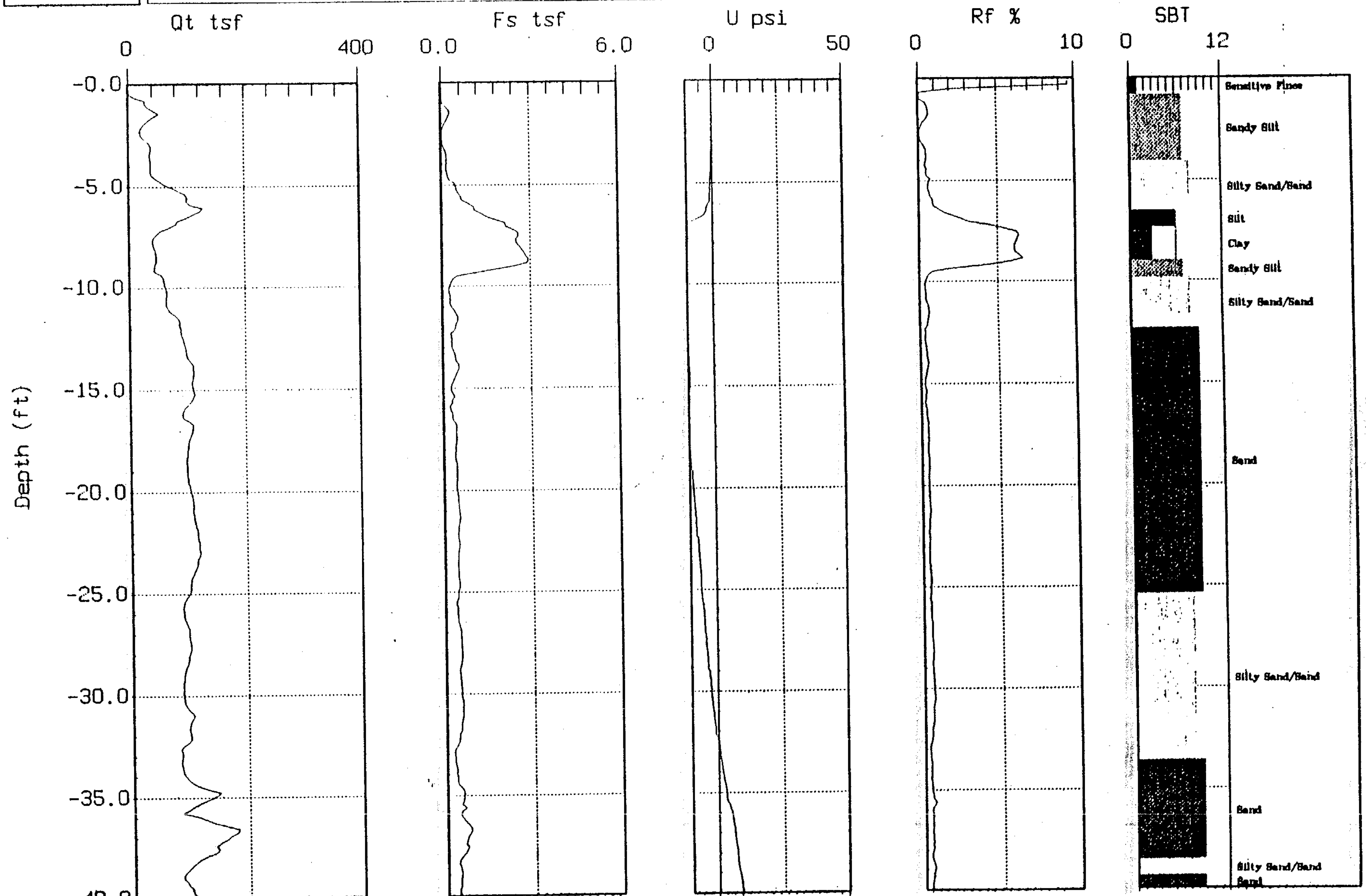
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02Q11601

ENGINEER : B. BURNS
Date : 09:15:97 06:27



Max. Depth: 60.20 (ft)

Depth Inc.: 0.164 (ft)

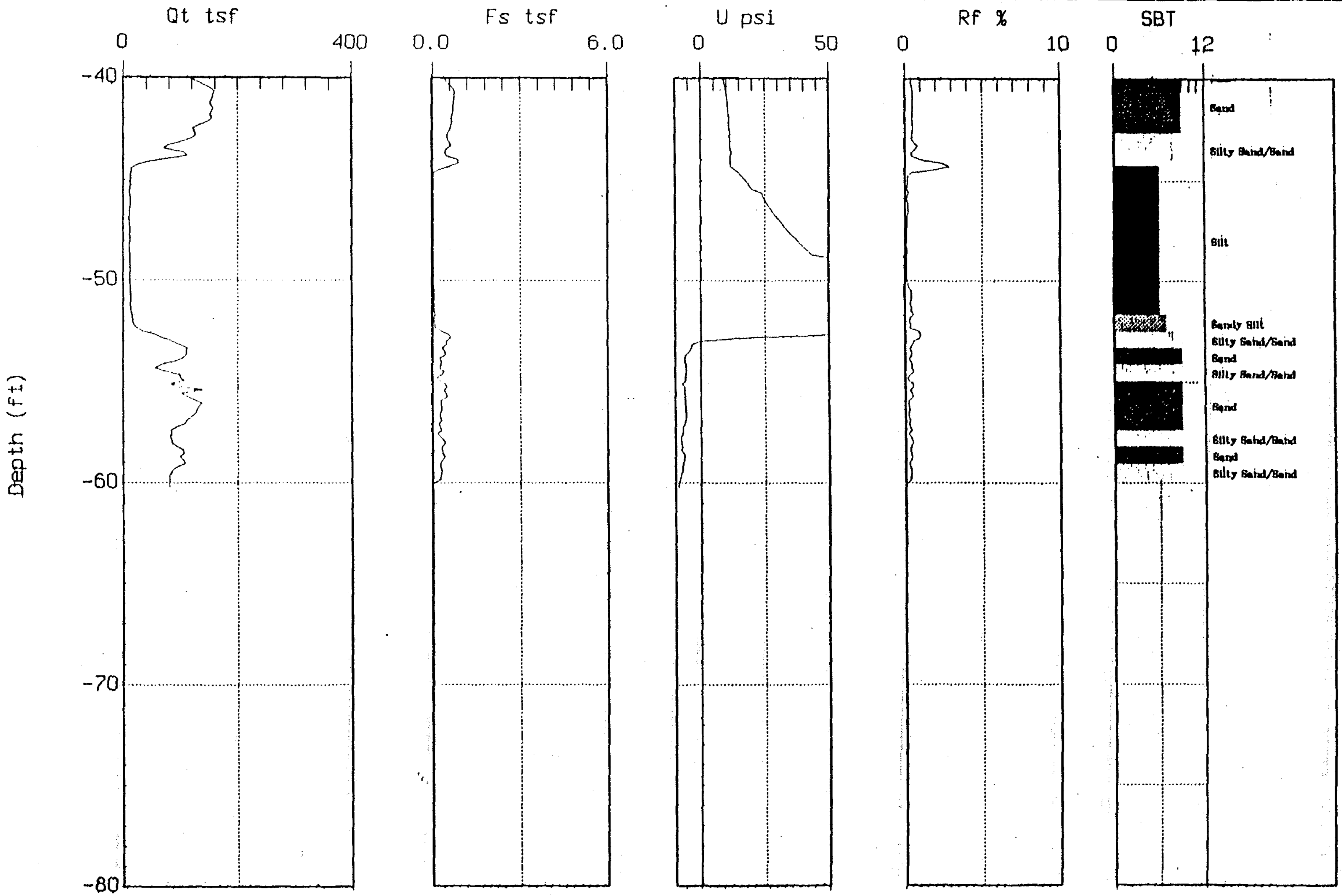
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02011601

ENGINEER : B. BURNS
Date : 09:15:97 06:27



Max. Depth: 60.20 (ft)

Depth Inc.: 0.164 (ft)

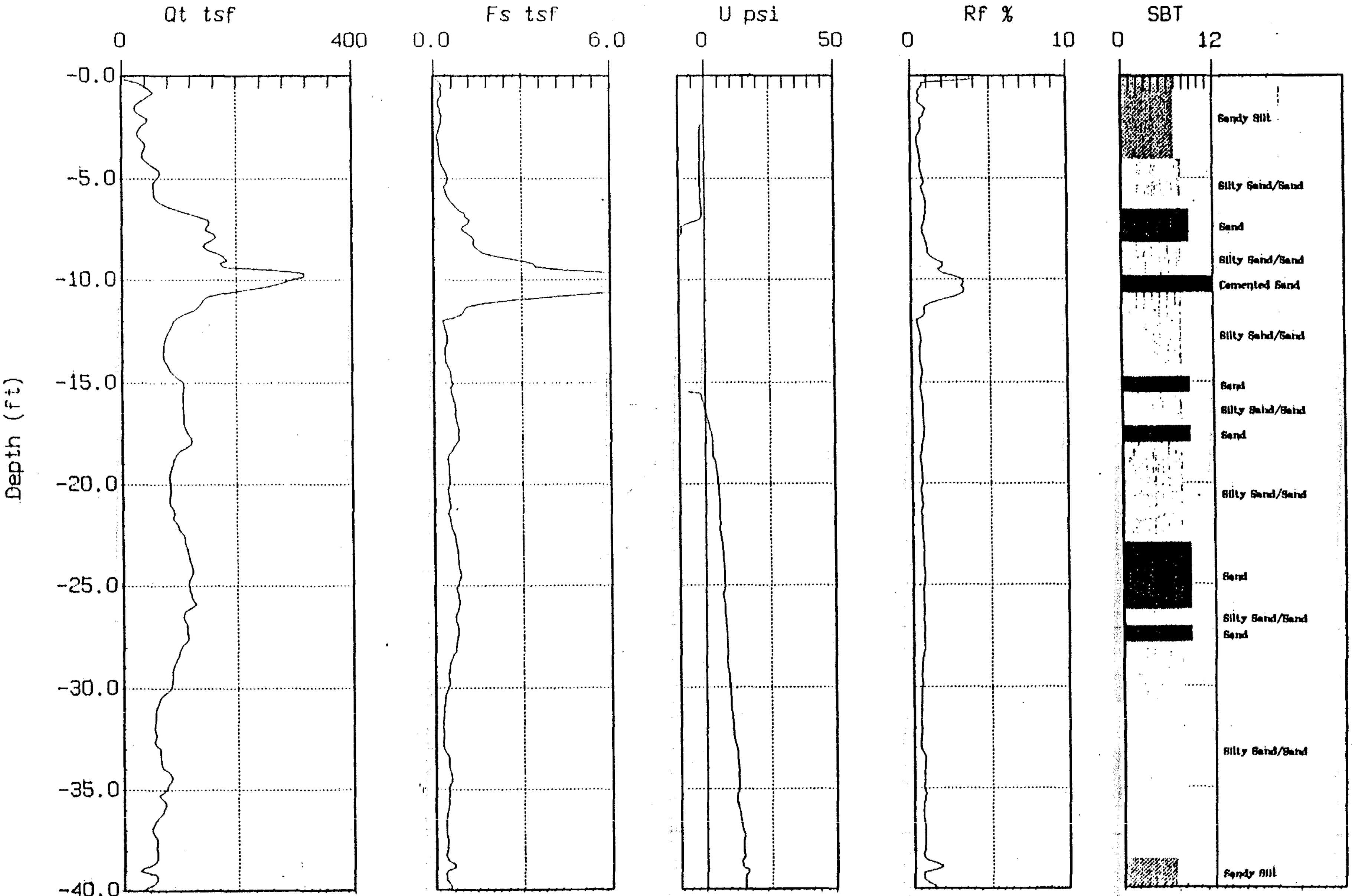
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site :
Location : 02Q11701

ENGINEER : B. BURNS
Date : 09:15:97 11:37



Max. Depth: 60.20 (ft)

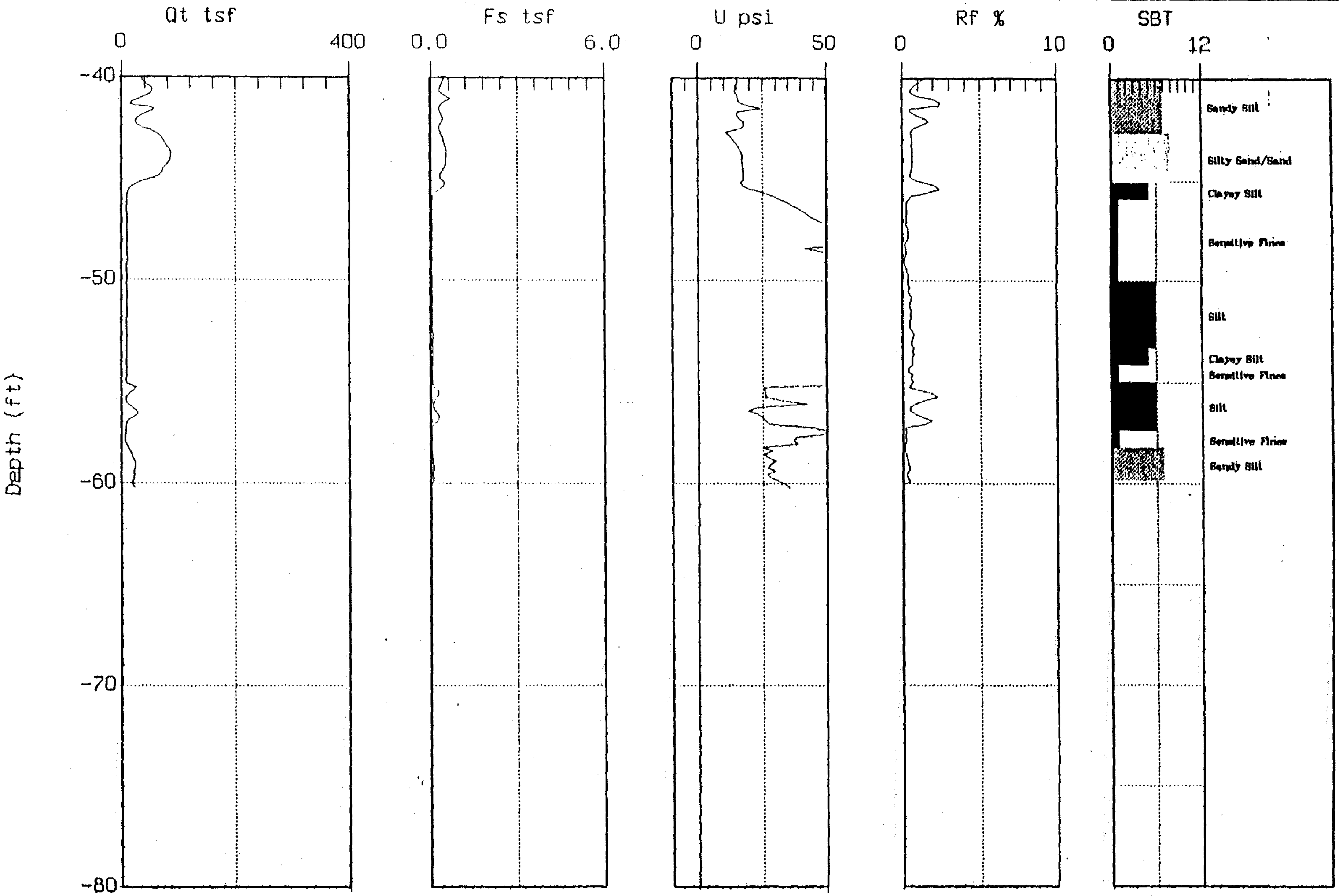
Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

ABB ENV.

Site :
Location : 02011701

ENGINEER : B. BURNS
Date : 09:15:97 11:37



Max. Depth: 60.20 (ft)

Depth Inc.: 0.164 (ft)

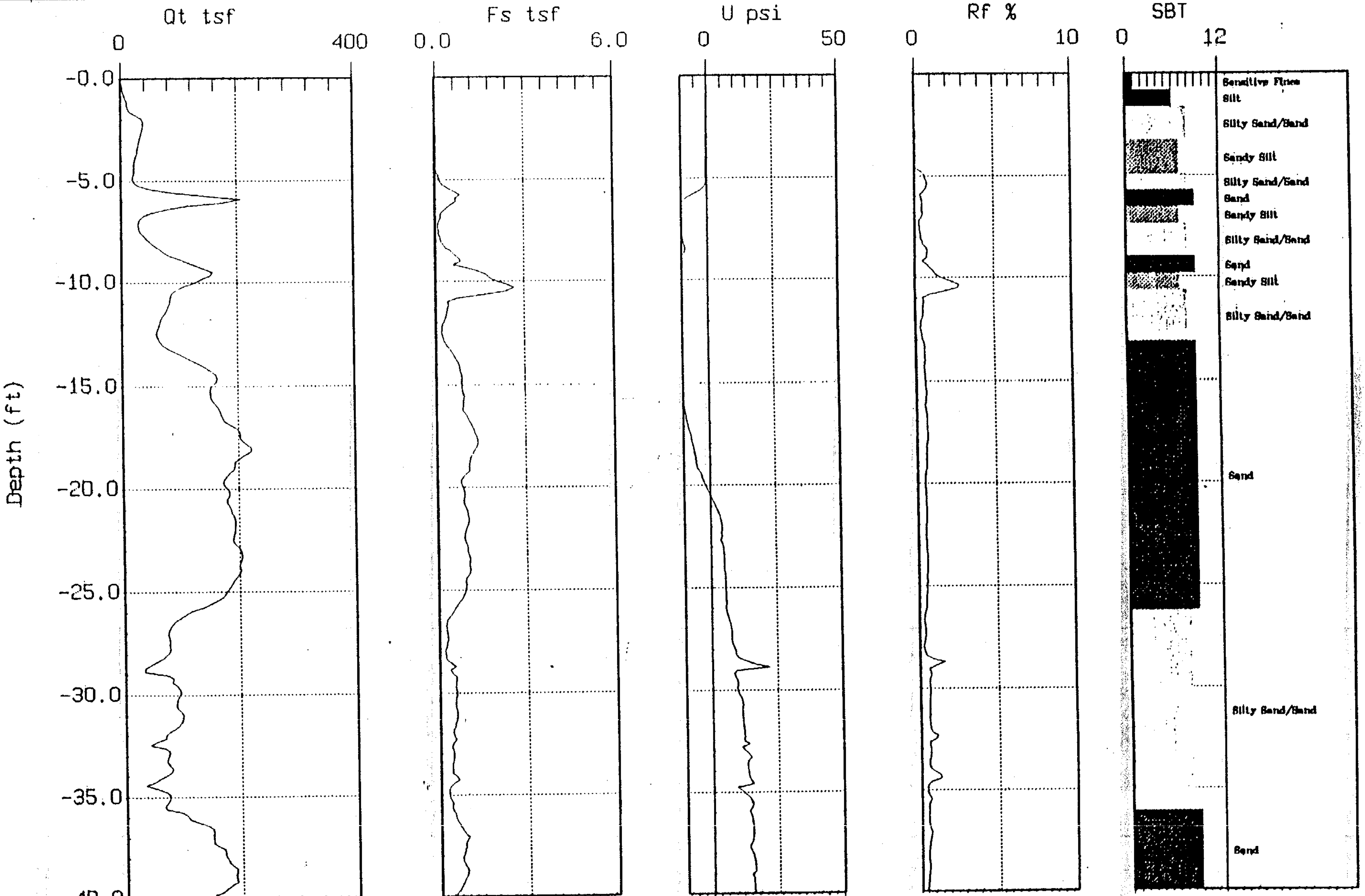
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02Q11801

ENGINEER : B. BURNS
Date : 09:16:97 06:58



Max. Depth: 60.37 (ft)
Depth Inc.: 0.164 (ft)

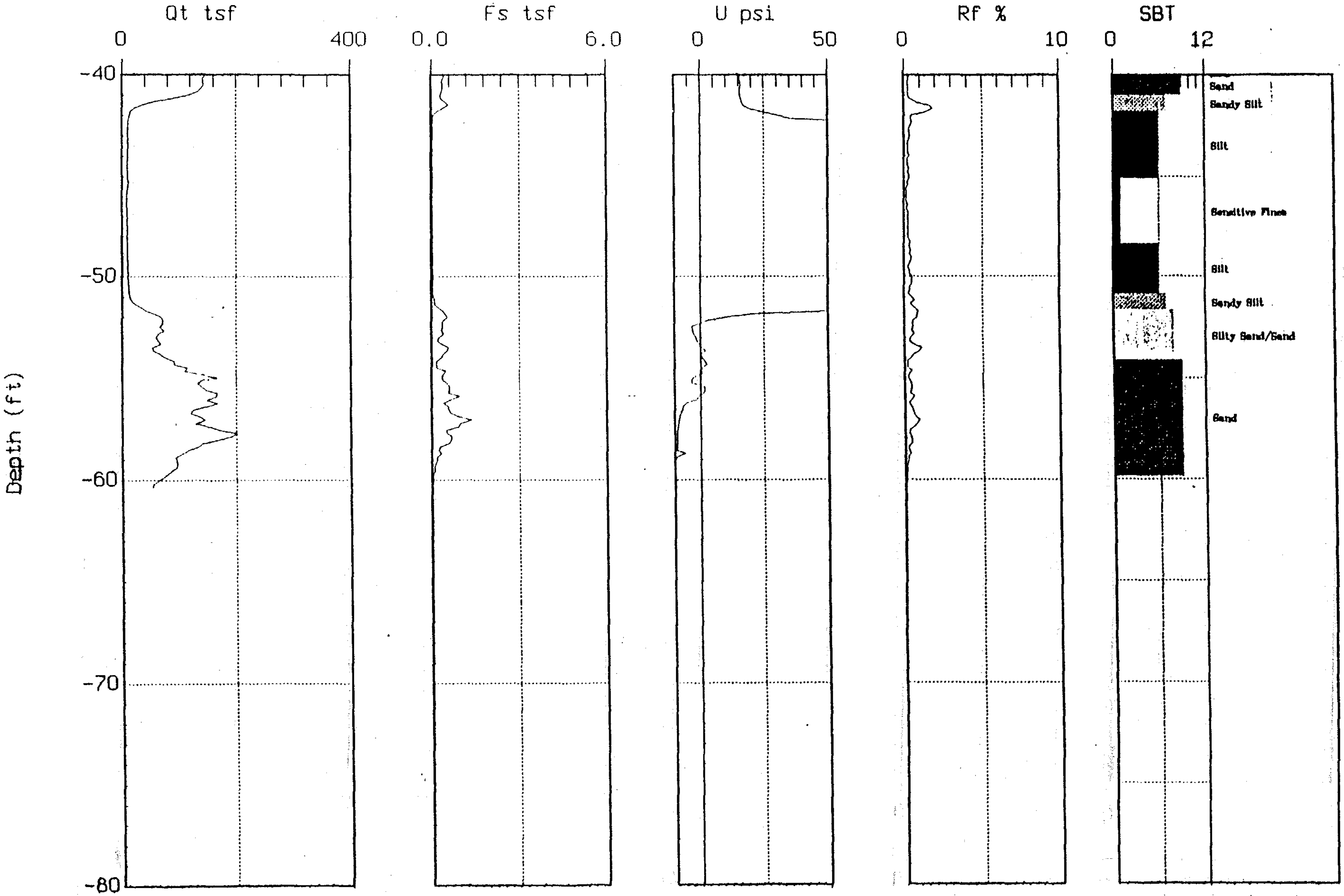
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02011801

ENGINEER : B. BURNS
Date : 09:16:97 06:58



Max. Depth: 60.37 (ft)

Depth Inc.: 0.164 (ft)

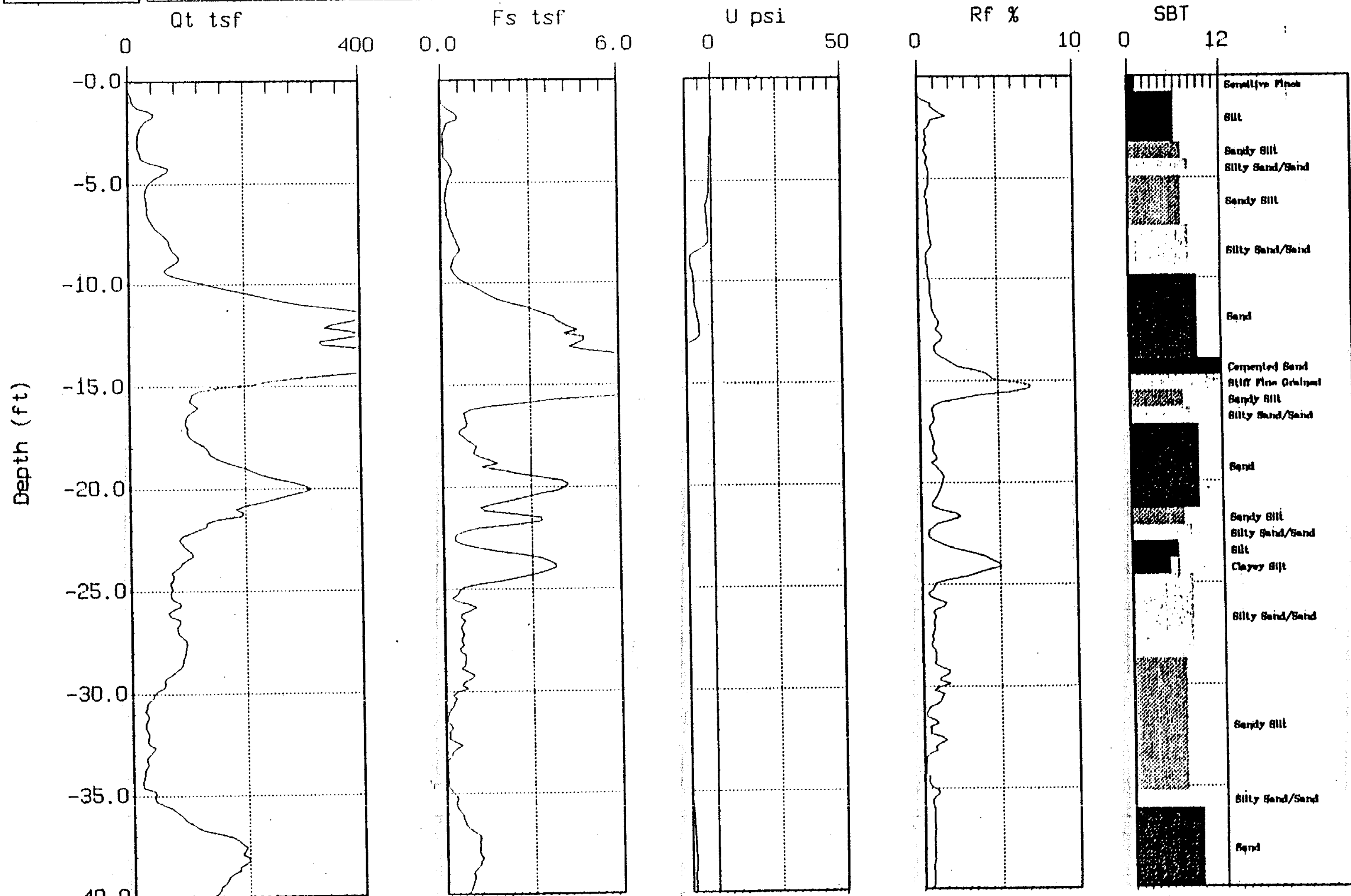
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02011901

ENGINEER : B. BURNS
Date : 09:16:97 12:36



Max. Depth: 60.20 (ft)

Depth Inc.: 0.164 (ft)

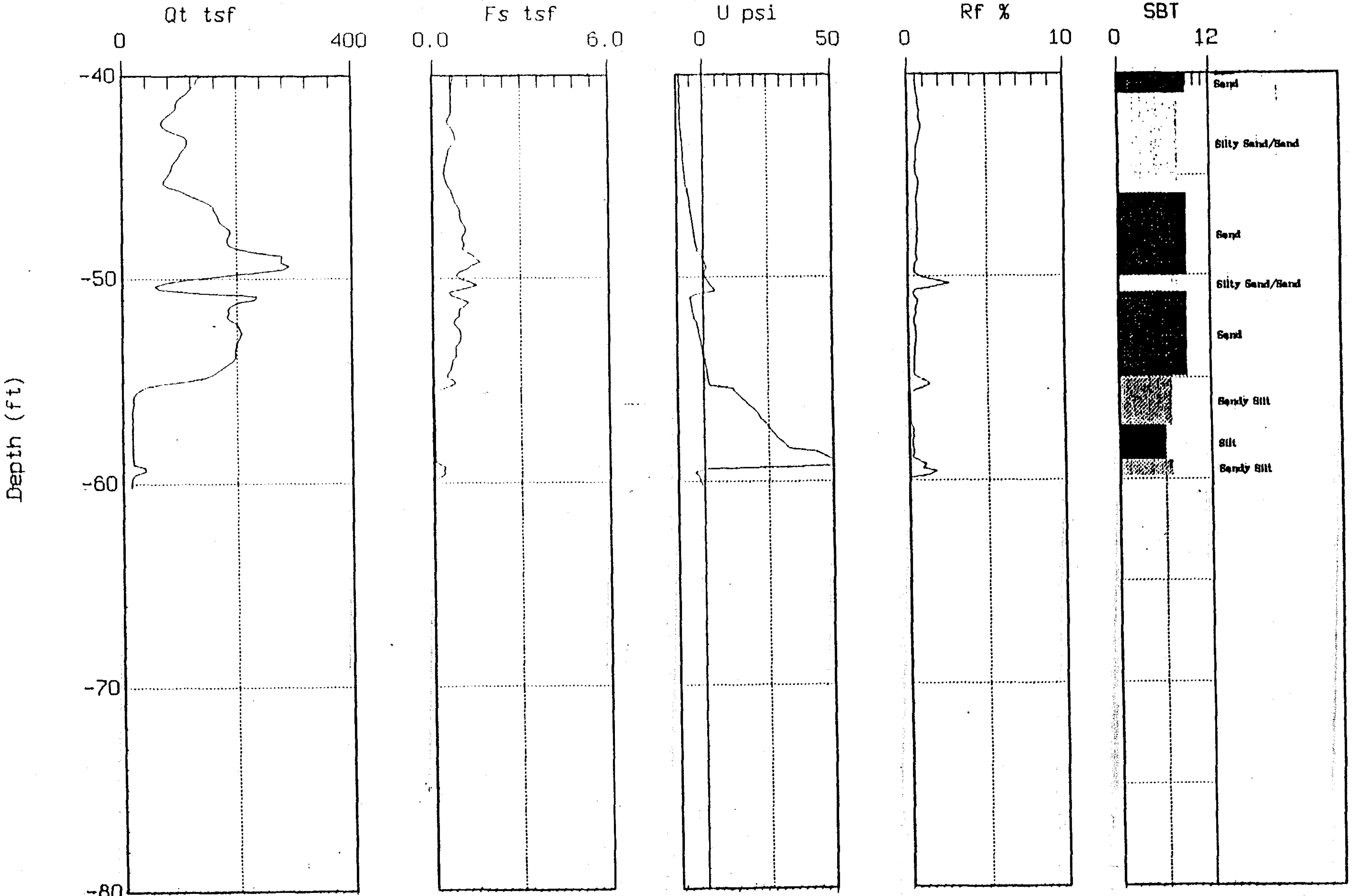
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02011901

ENGINEER : B. BURNS
Date : 09:16:97 12:36



Max. Depth: 60.20 (ft)
Depth Inc.: 0.164 (ft)

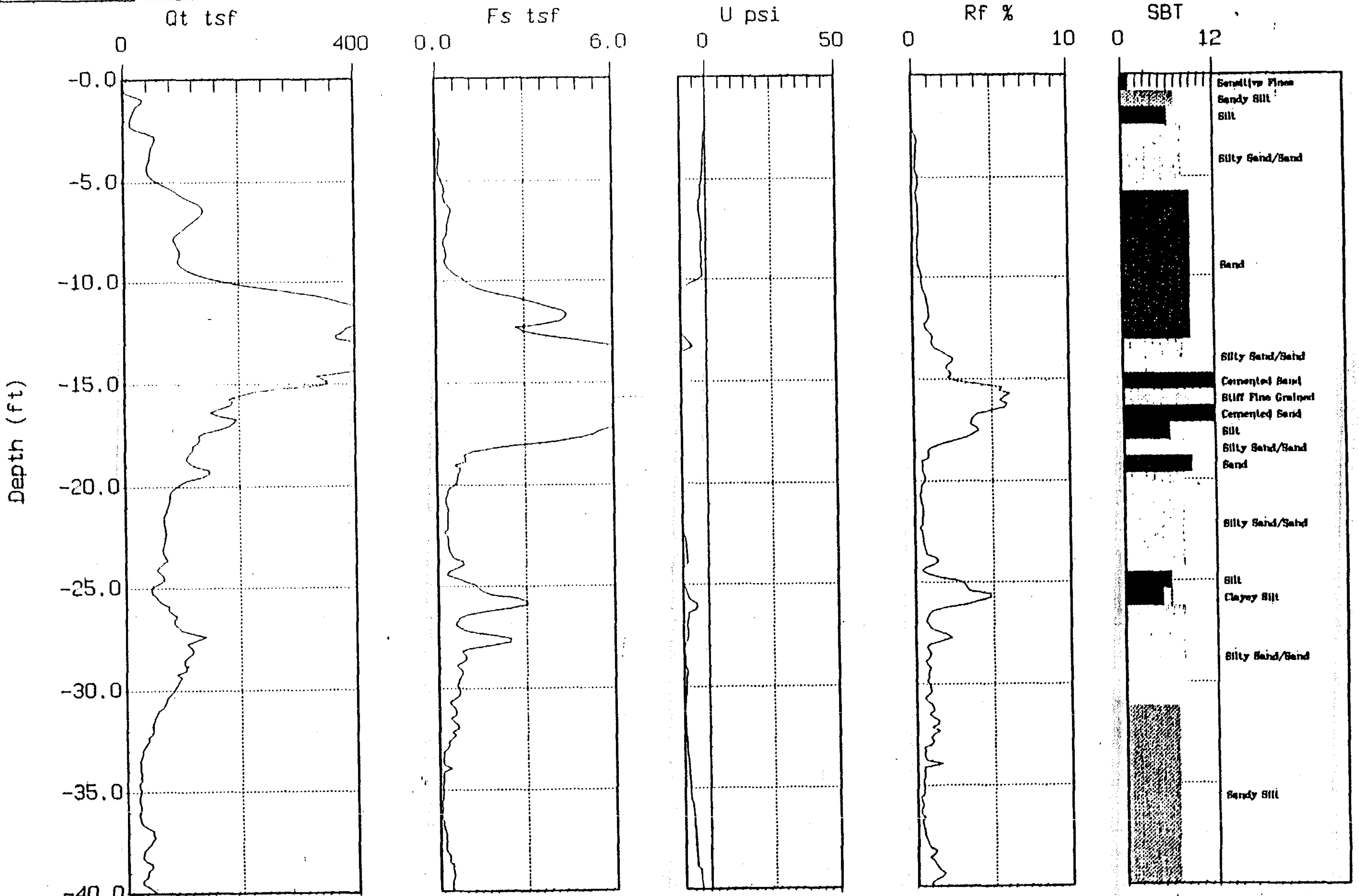
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02012001

ENGINEER : B OLSON
Date : 09:17:97 06:20



Max. Depth: 60.20 (ft)

Depth Inc.: 0.164 (ft)

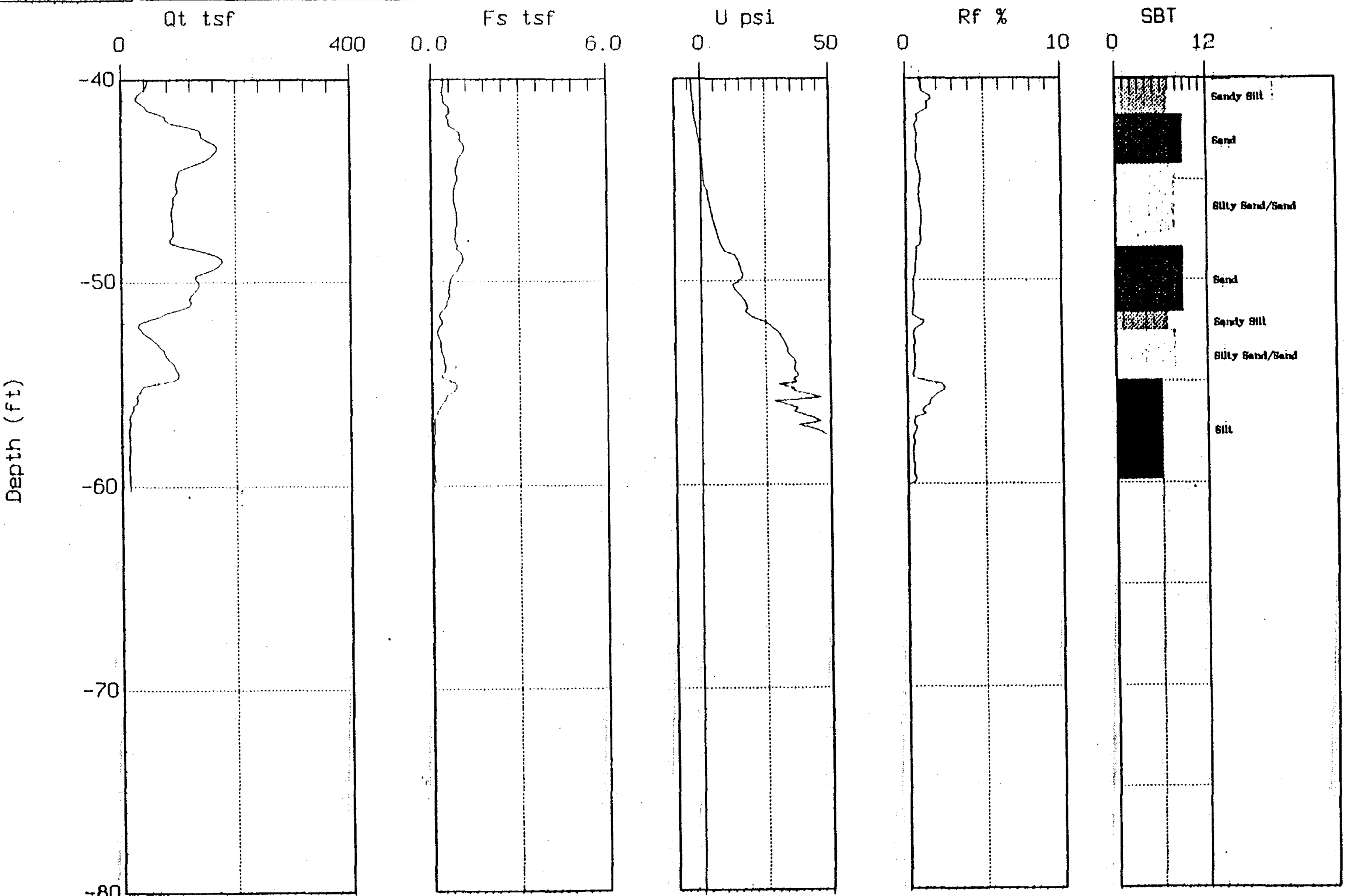
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02Q12001

ENGINEER : B OLSON
Date : 09:17:97 06:20



Max. Depth: 60.20 (ft)

Depth Inc.: 0.164 (ft)

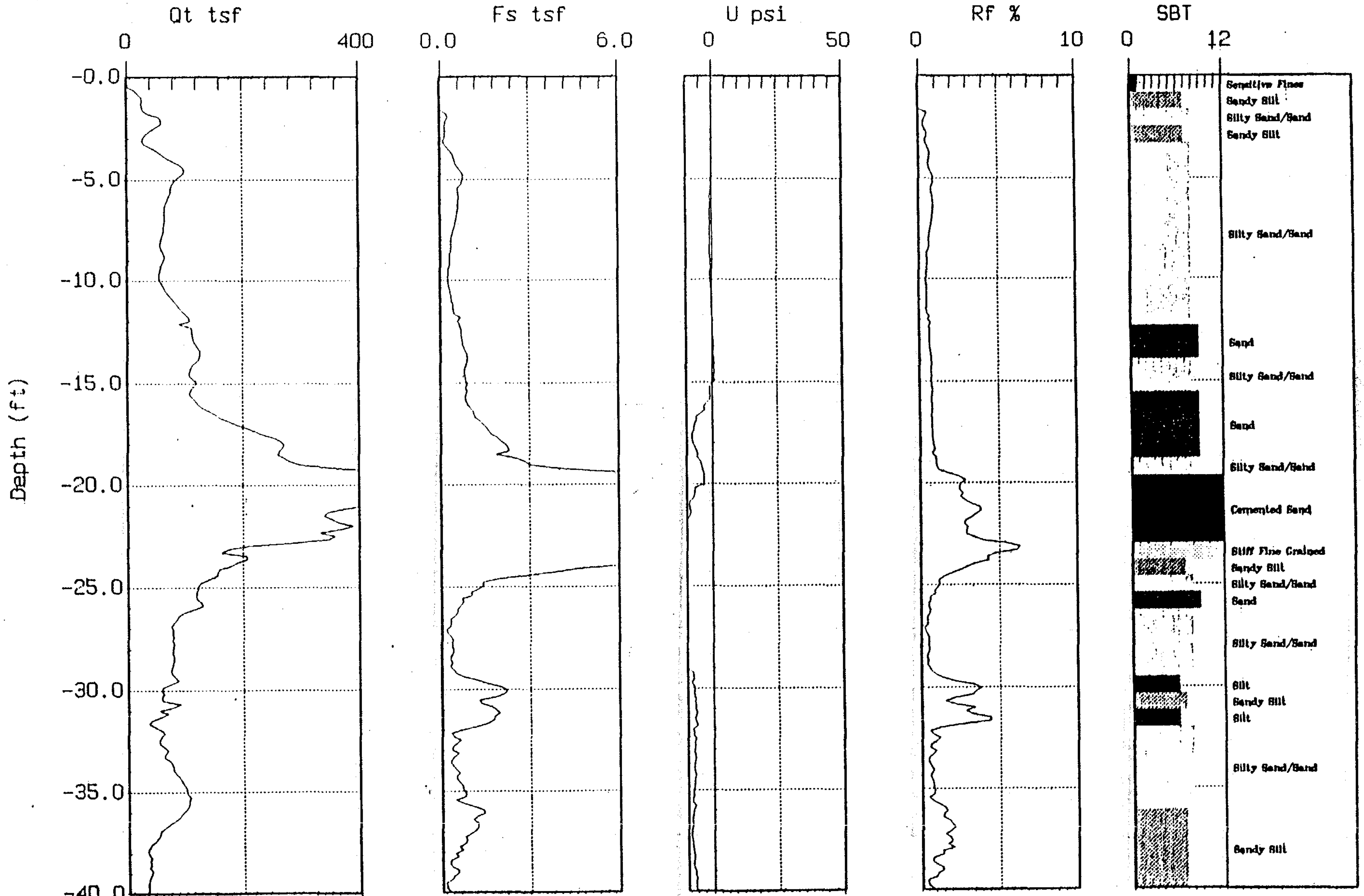
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02Q12101

ENGINEER : B. OLSON
Date : 09:17:97 11:37



Max. Depth: 60.20 (ft)

Depth Inc.: 0.164 (ft)

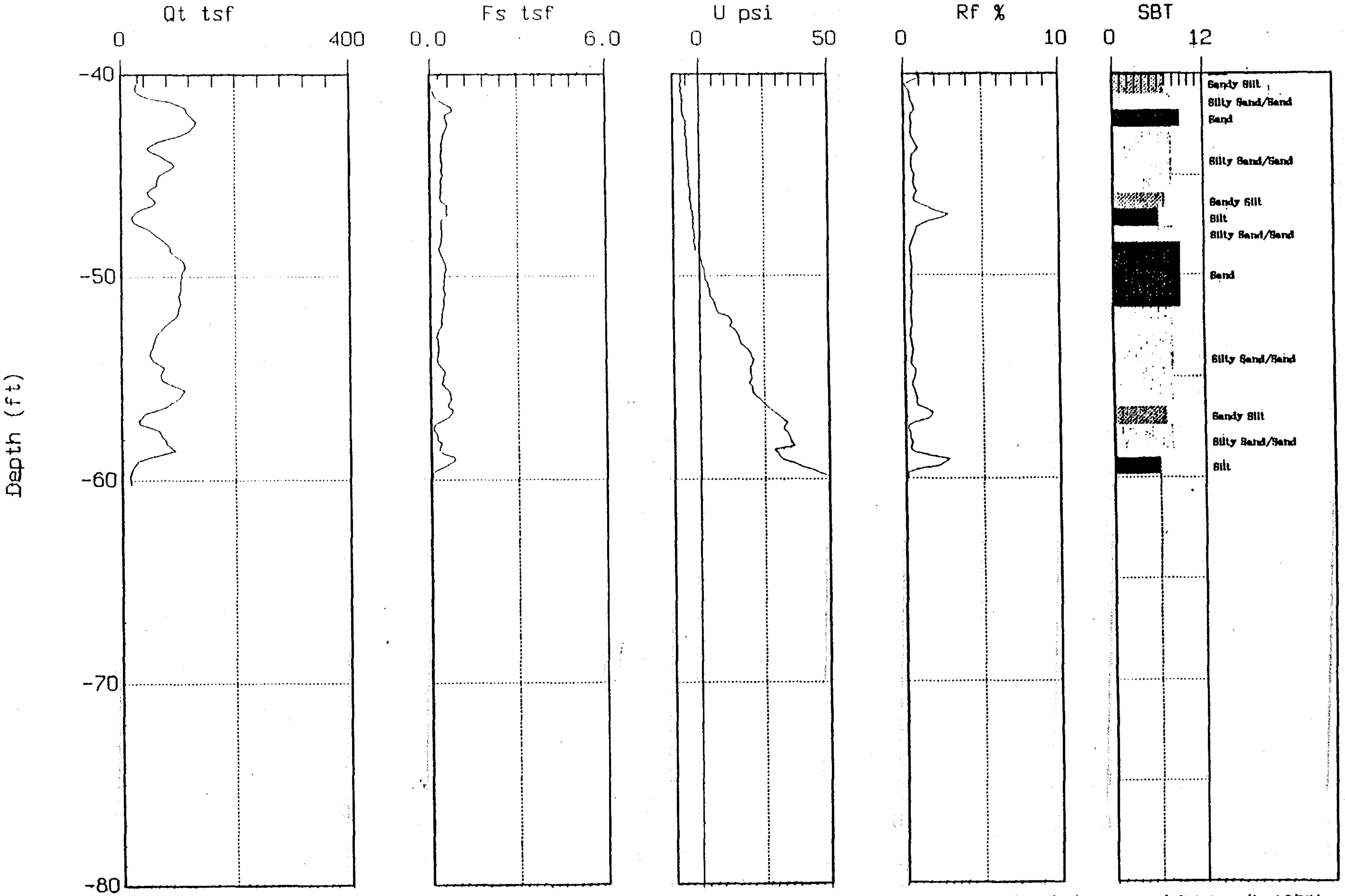
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02012101

ENGINEER : B. OLSON
Date : 09:17:97 11:37



Max. Depth: 60.20 (ft)

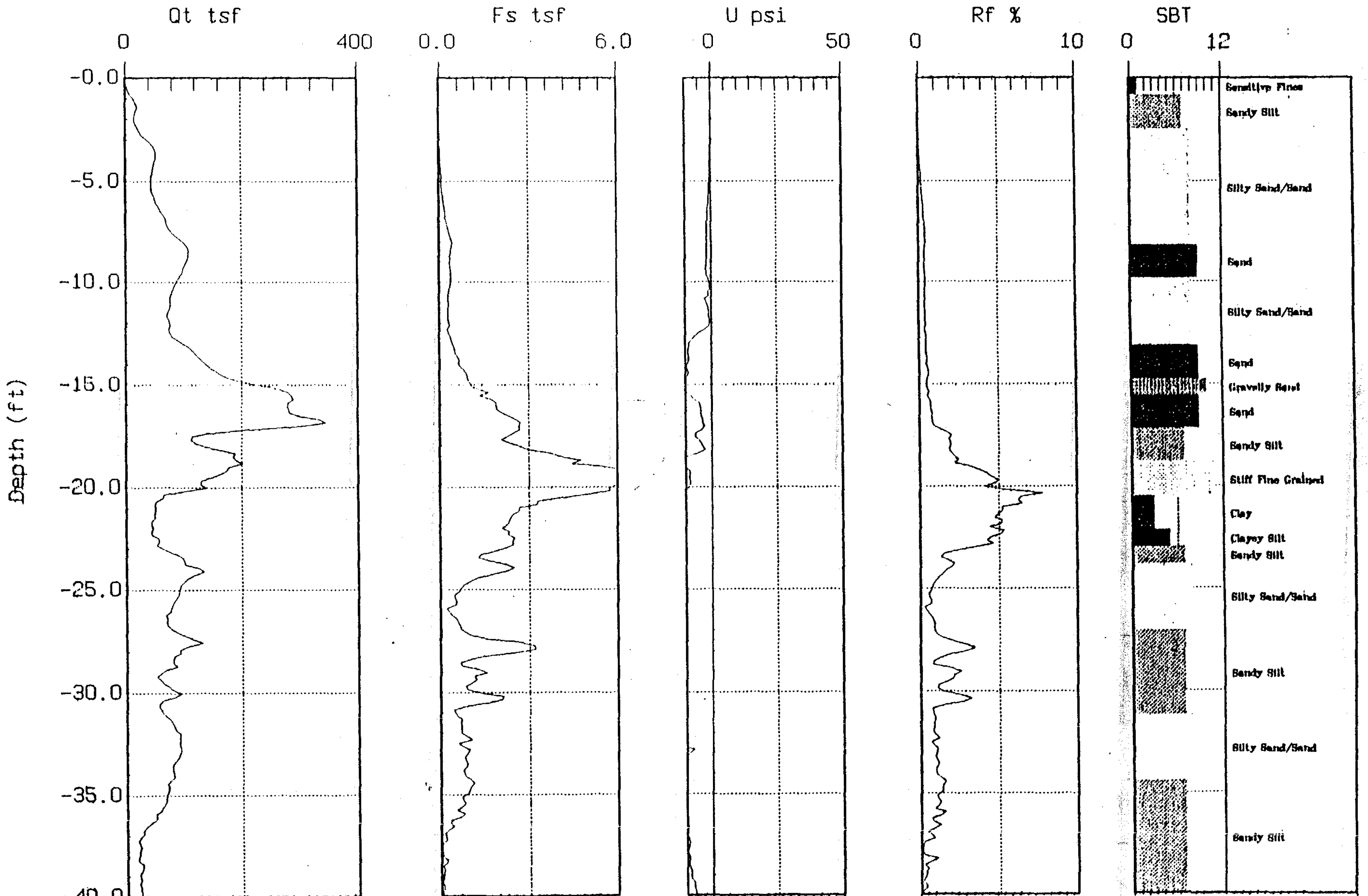
Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

ABB ENV.

Site : HERNDON ANNEX
Location : 02012201

ENGINEER : M. TODARO
Date : 09:18:97 06:23



Max. Depth: 60.20 (ft)

Depth Inc.: 0.164 (ft)

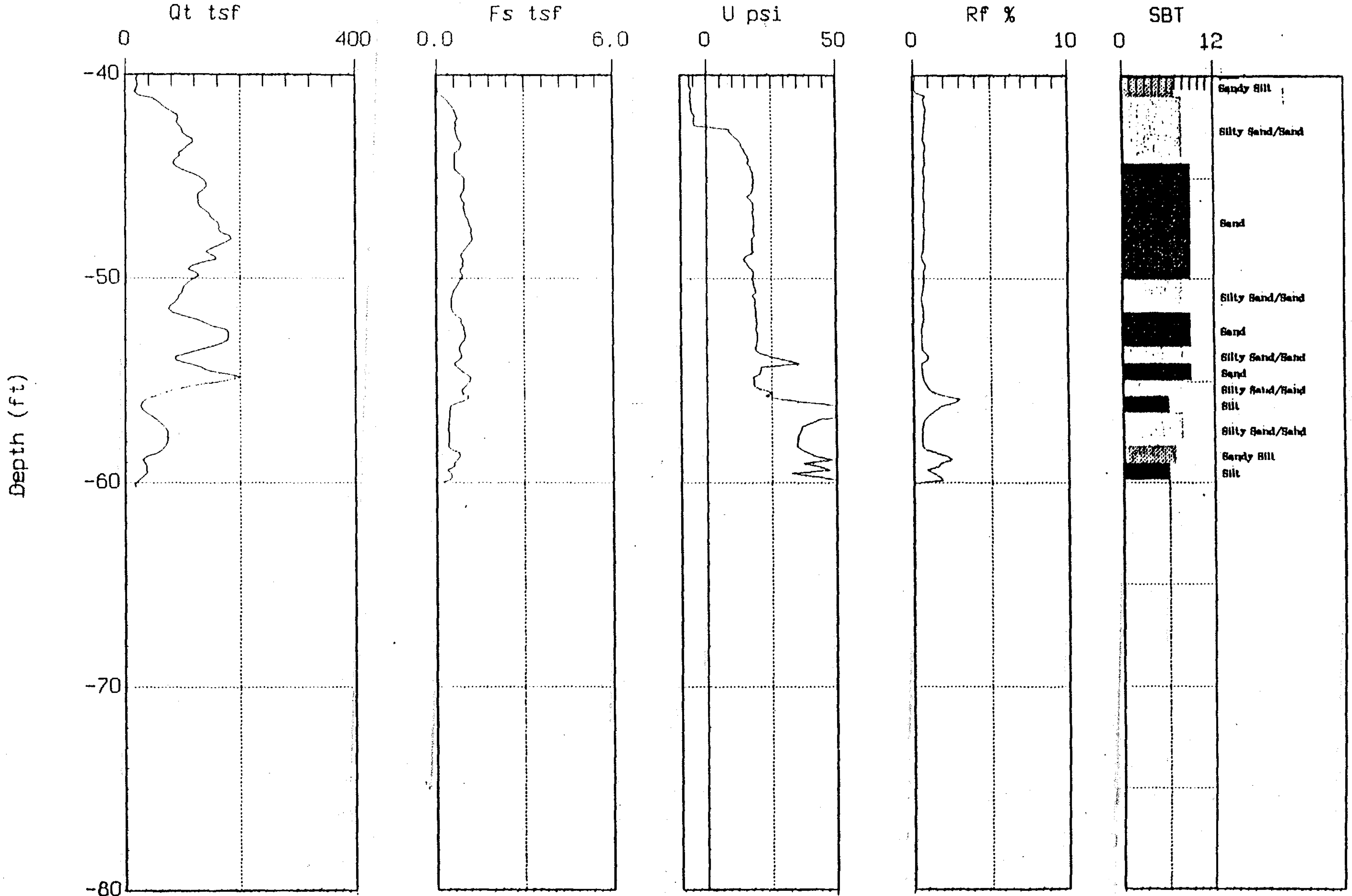
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02012201

ENGINEER : M. TODARO
Date : 09:18:97 06:23



Max. Depth: 60.20 (ft)

Depth Inc.: 0.164 (ft)

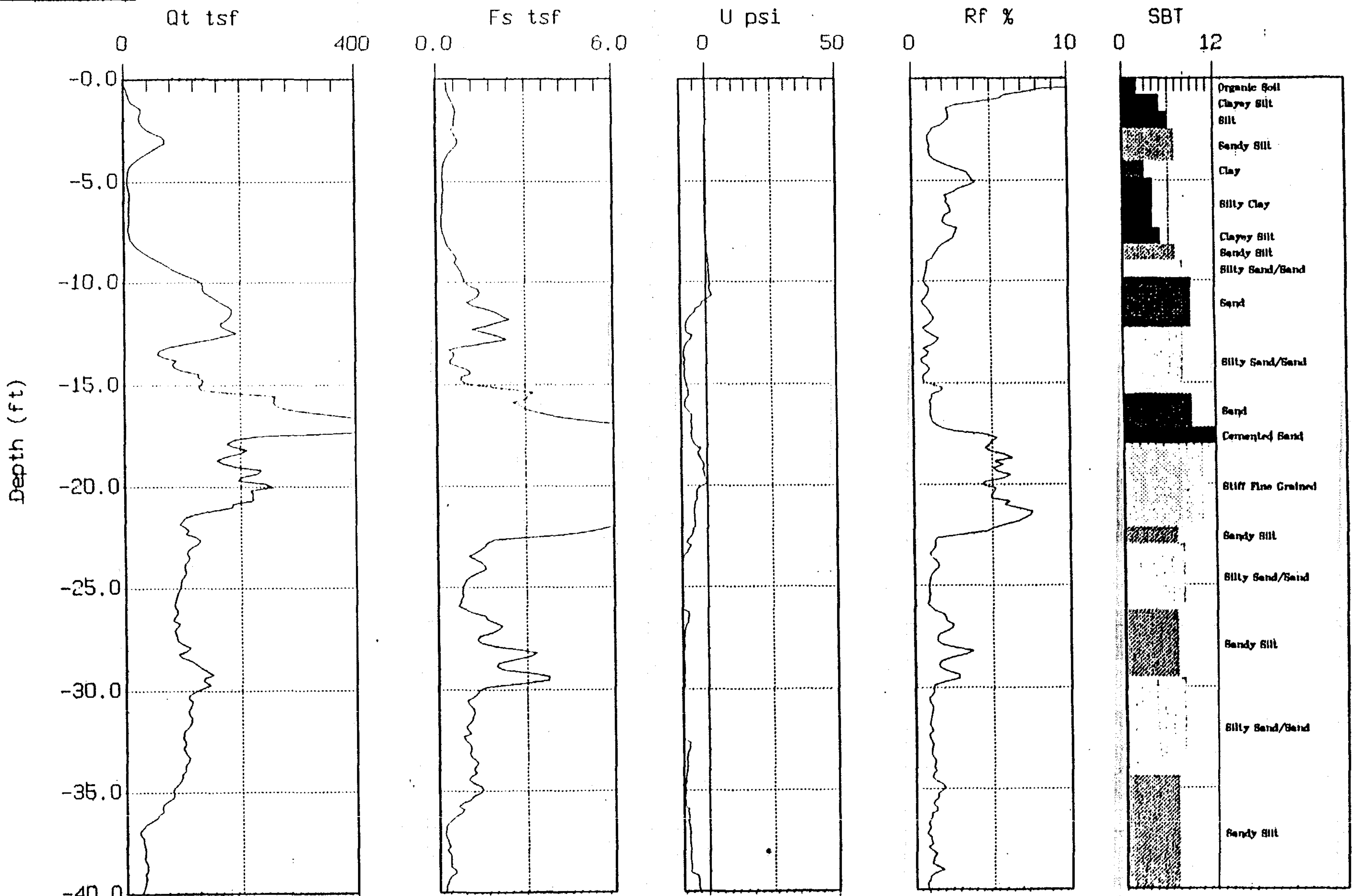
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON AQNNEX
Location : 02012301

ENGINEER : M. TODARO
Date : 09:18:97 10:51



Max. Depth: 60.20 (ft)

Depth Inc.: 0.164 (ft)

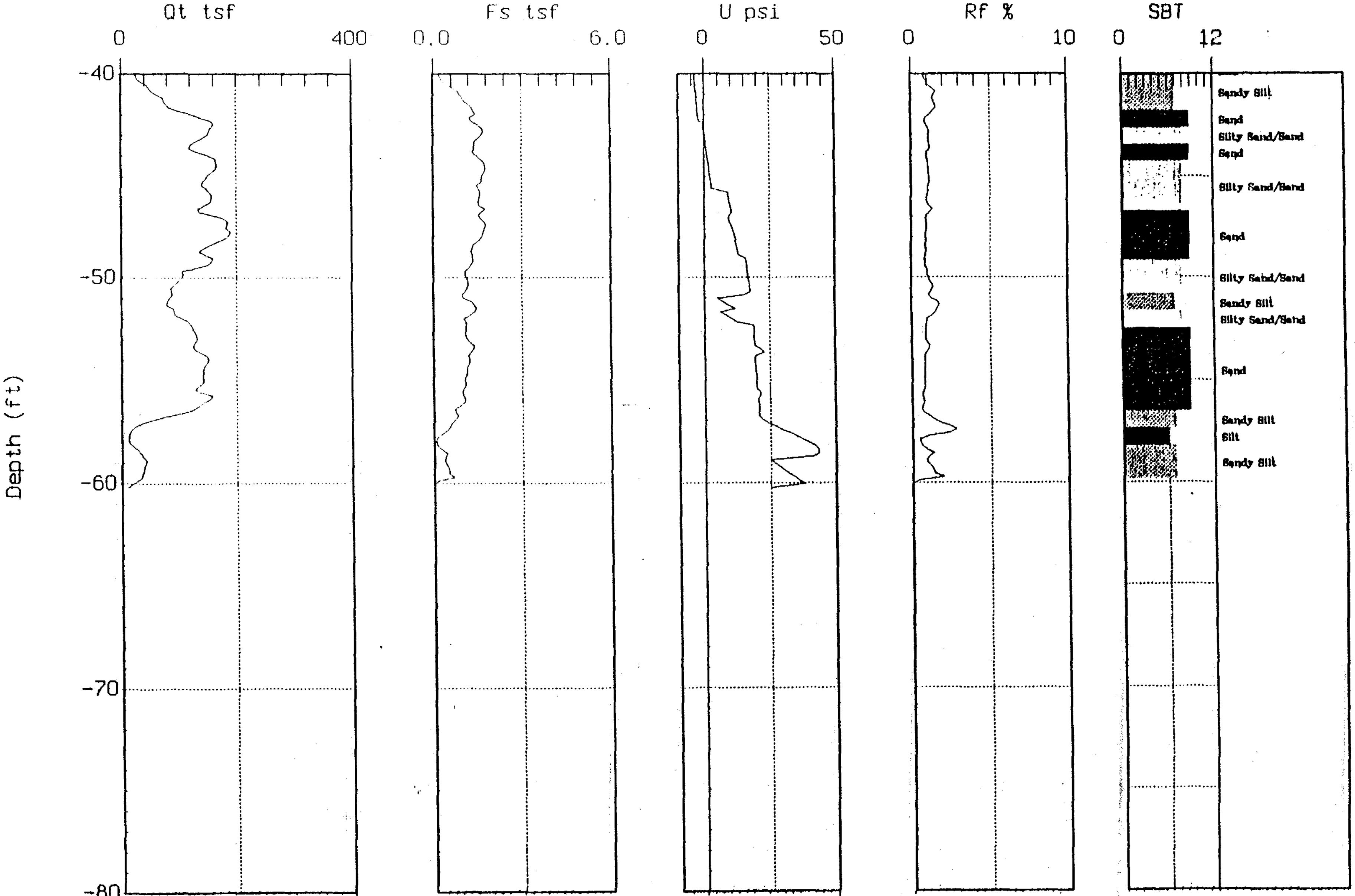
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON AQNNEX
Location : 02012301

ENGINEER : M. TODARO
Date : 09:18:97 10:51



Max. Depth: 60.20 (ft)

Depth Inc.: 0.164 (ft)

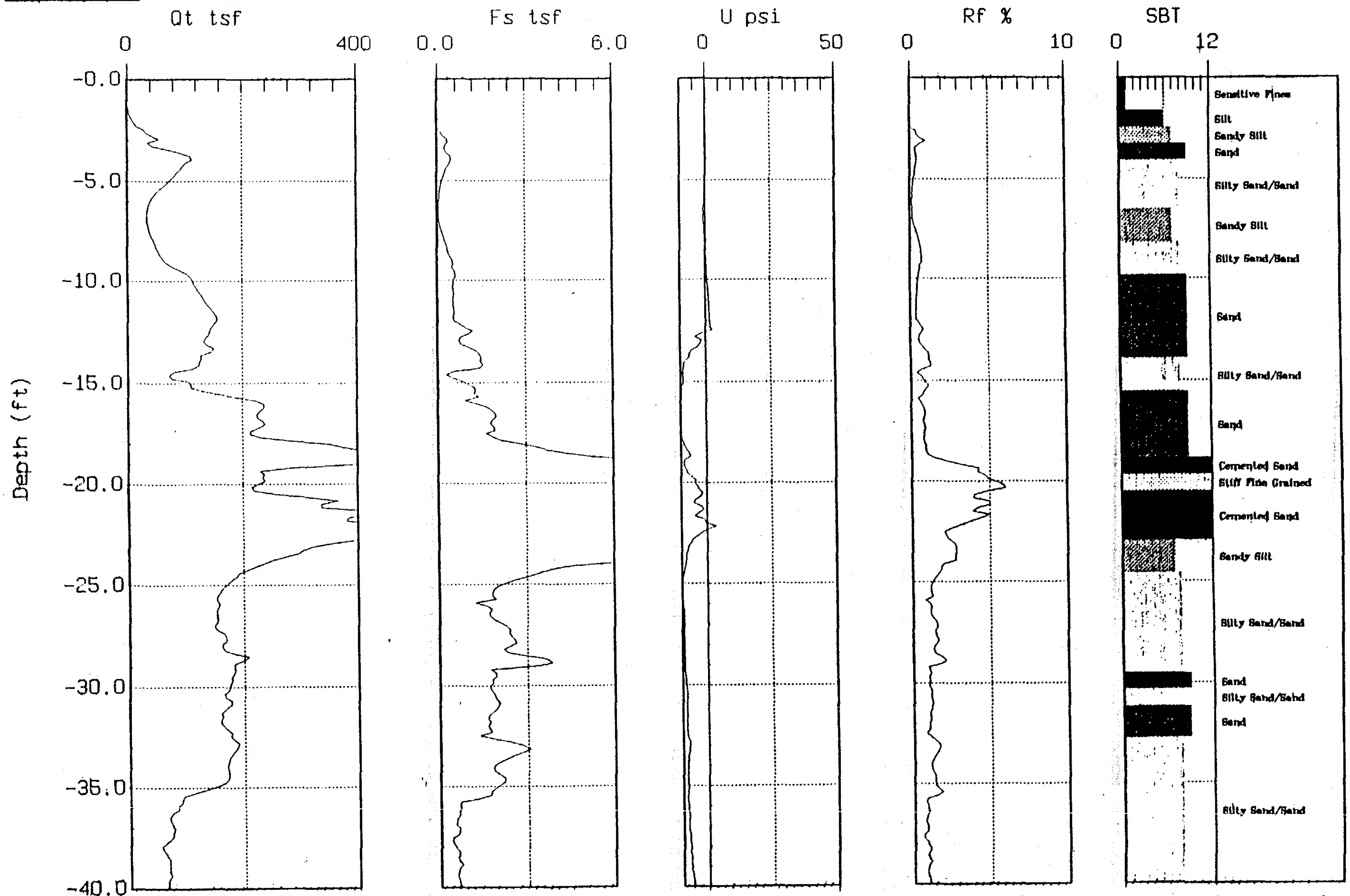
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02012401

ENGINEER : B. BURNS
Date : 09:19:97 06:12



Max. Depth: 60.37 (ft)

Depth Inc.: 0.164 (ft)

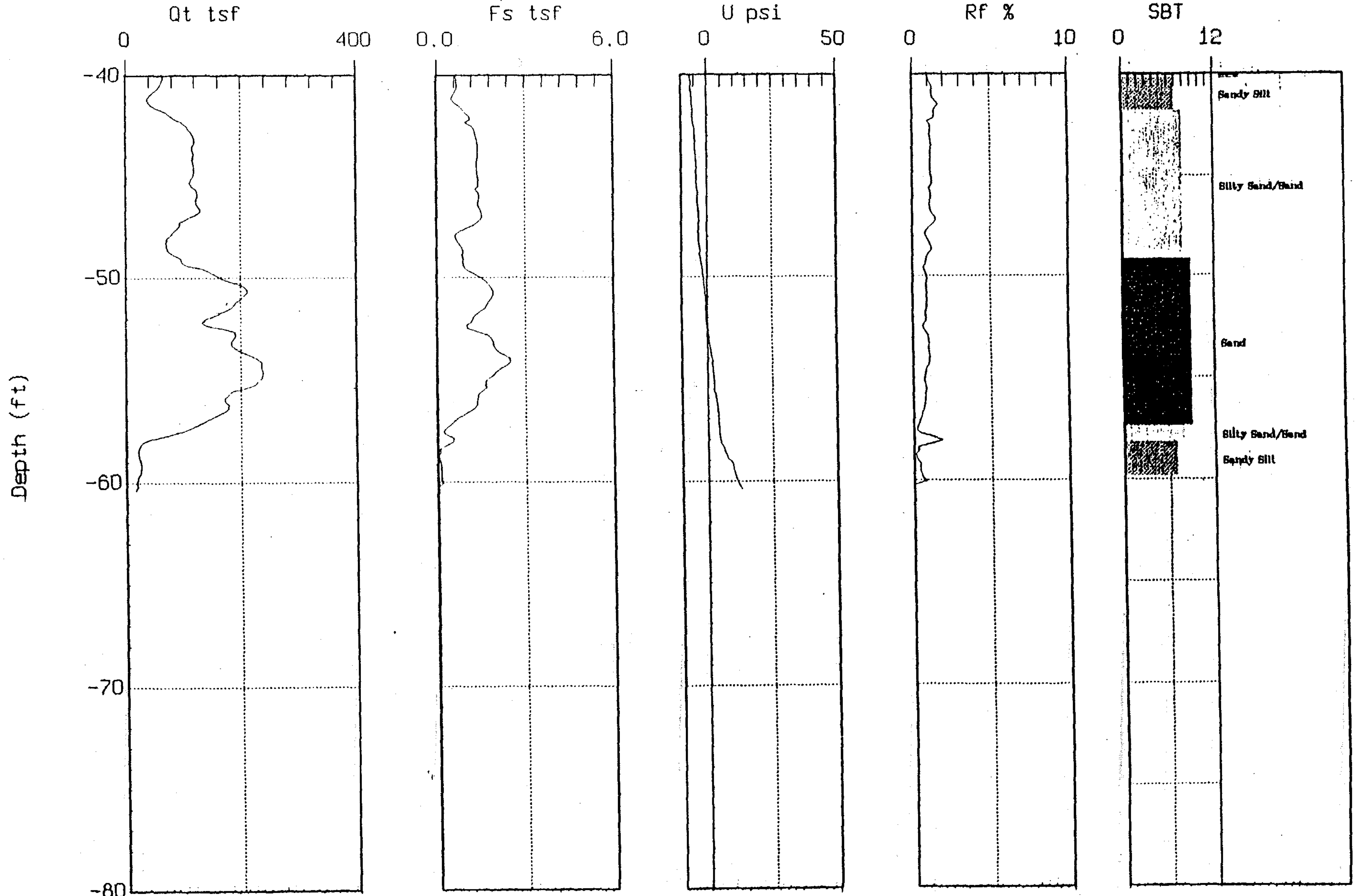
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02012401

ENGINEER : B. BURNS
Date : 09:19:97 06:12



Max. Depth: 60.37 (ft)
Depth Inc.: 0.164 (ft)

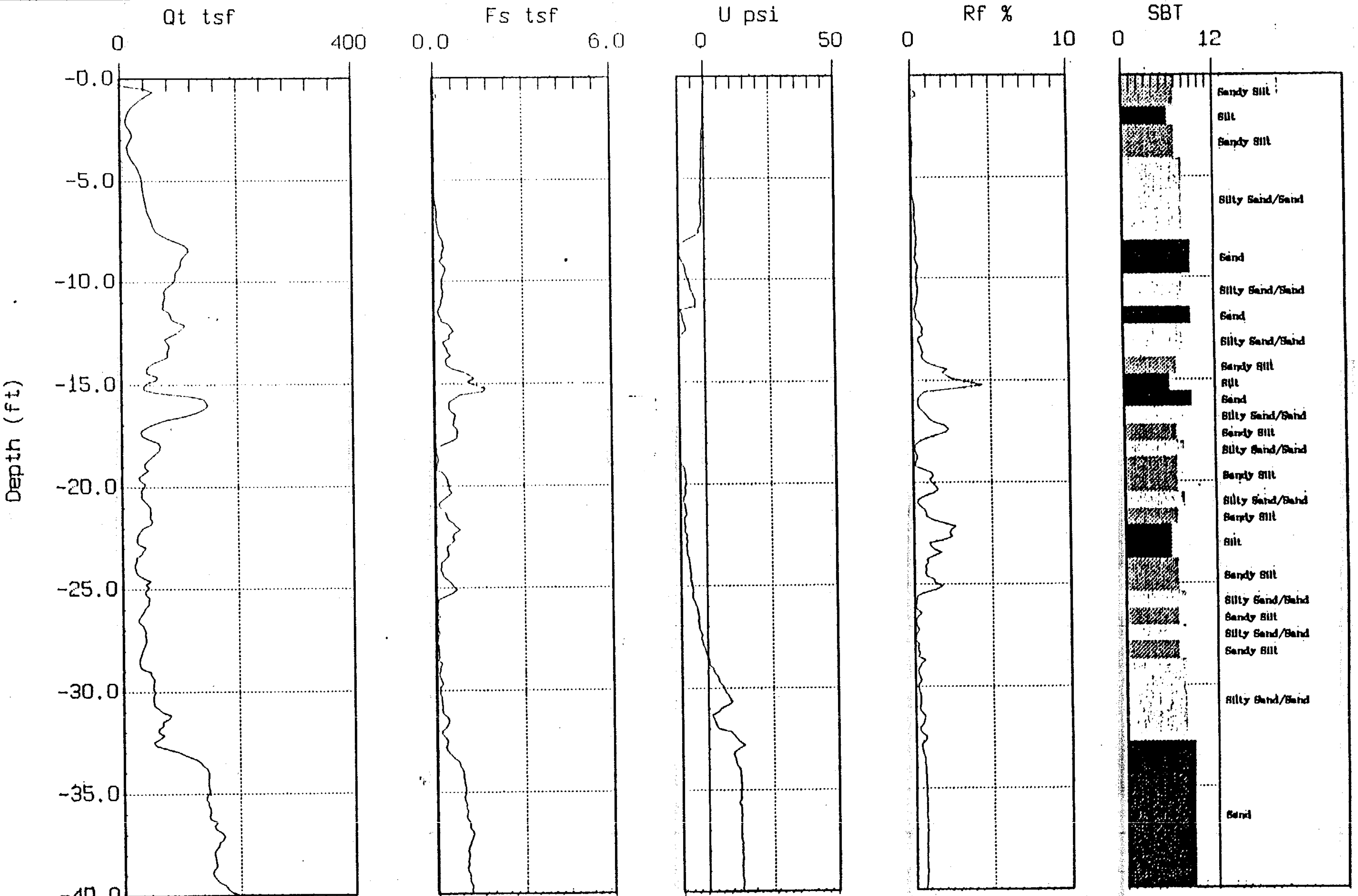
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02012701

ENGINEER : B. BURNS
Date : 09:22:97 07:04



Max. Depth: 60.20 (ft)

Depth Inc.: 0.164 (ft)

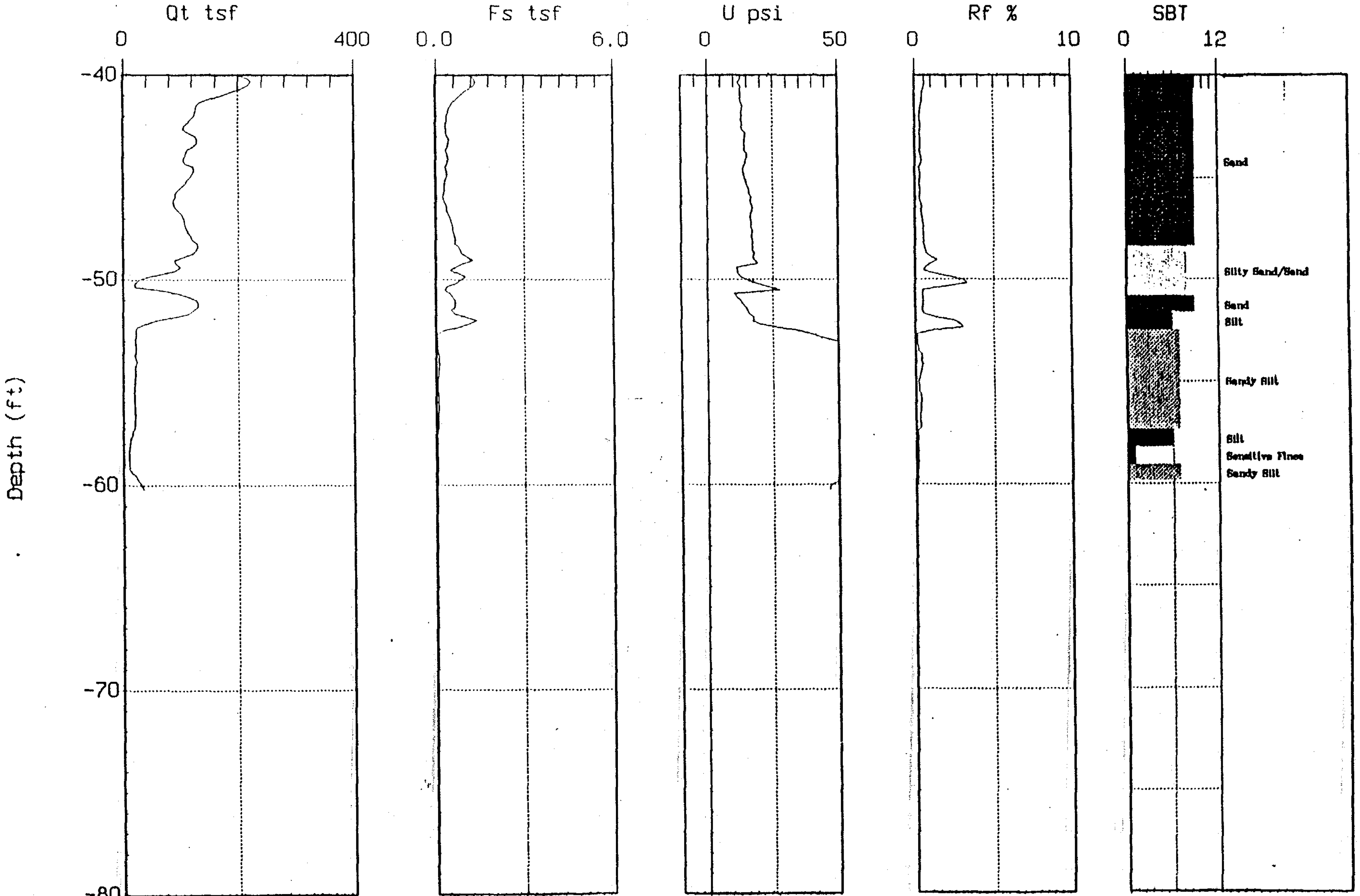
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02Q12701

ENGINEER : B. BURNS
Date : 09:22:97 07:04



Max. Depth: 60.20 (ft)

Depth Inc.: 0.164 (ft)

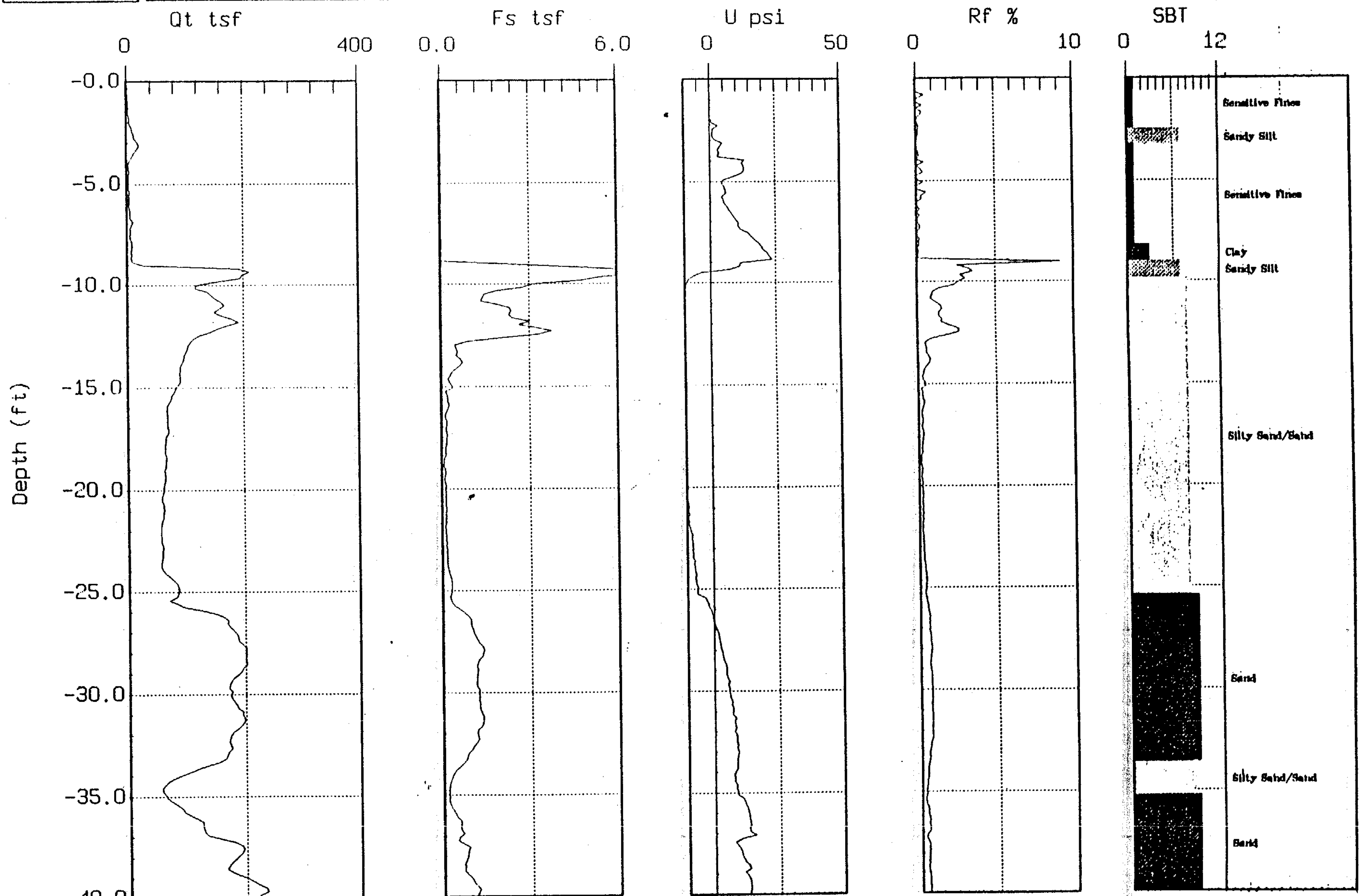
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02012801

ENGINEER : B. BURNS
Date : 09:22:97 11:48



Max. Depth: 60.37 (ft)

Depth Inc.: 0.164 (ft)

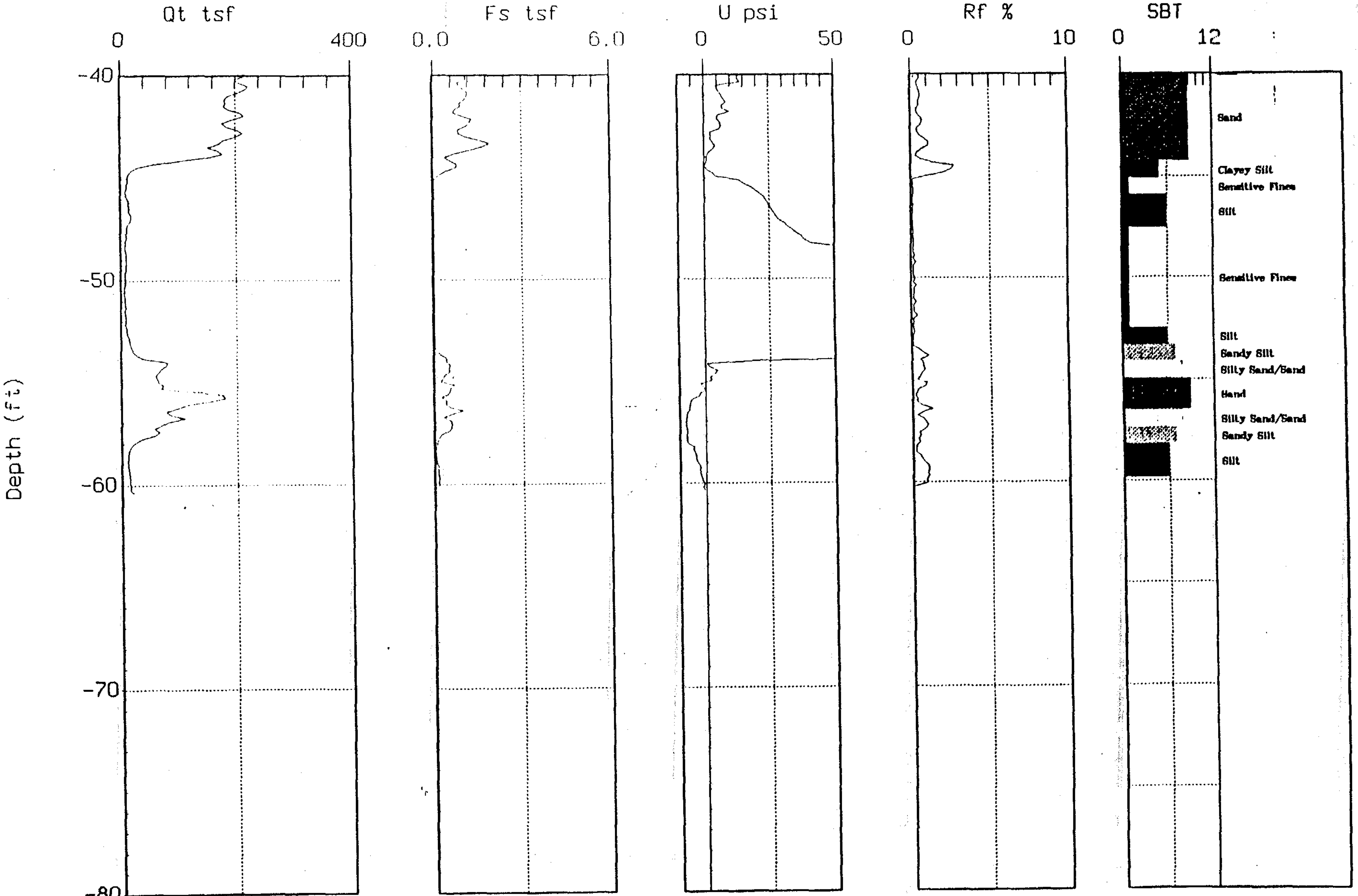
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02012801

ENGINEER : B. BURNS
Date : 09:22:97 11:48



Max. Depth: 60.37 (ft)

Depth Inc.: 0.164 (ft)

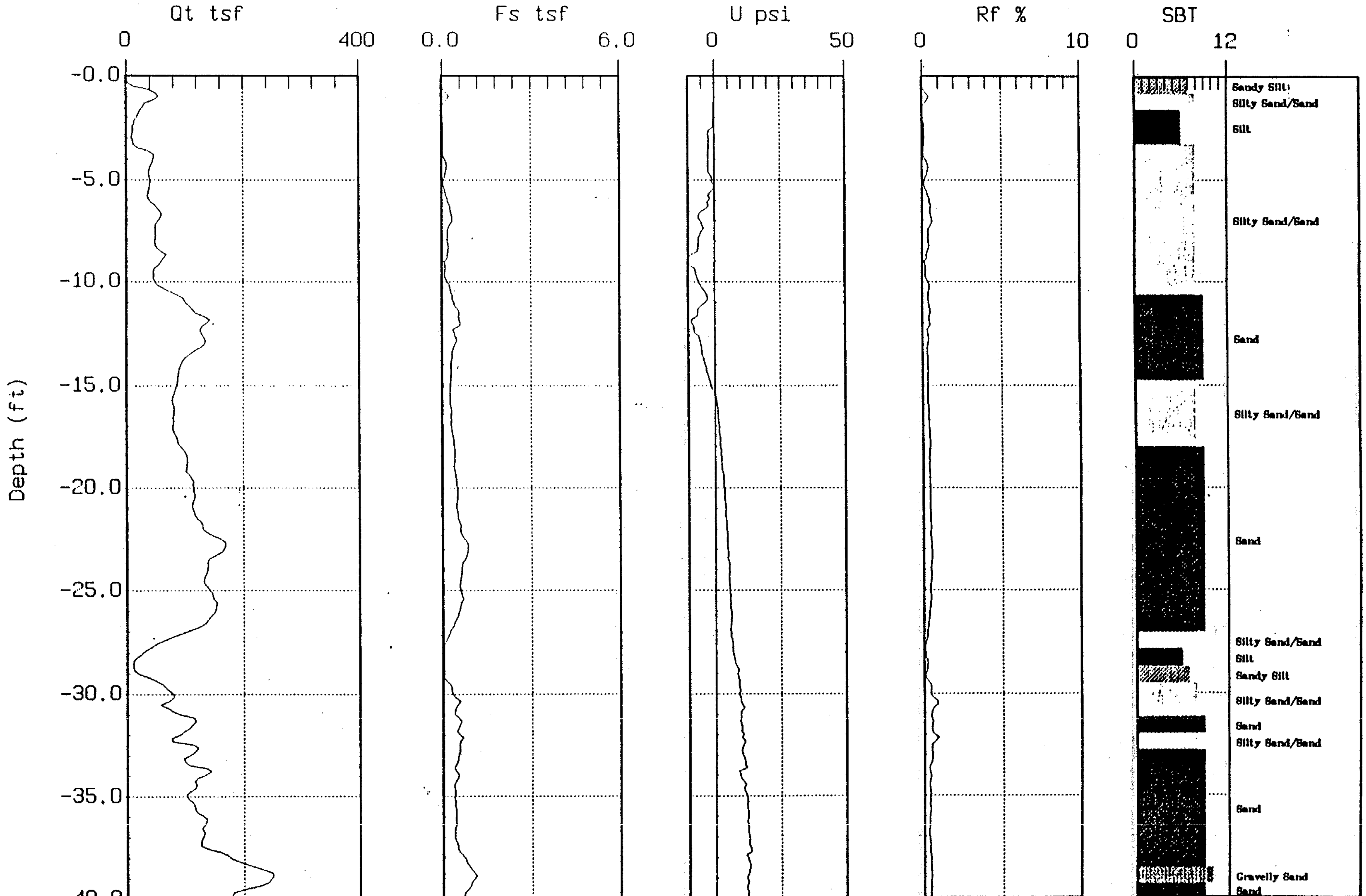
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02Q12901

ENGINEER : B. BURNS
Date : 09:23:97 06:18



Max. Depth: 60.20 (ft)

Depth Inc.: 0.164 (ft)

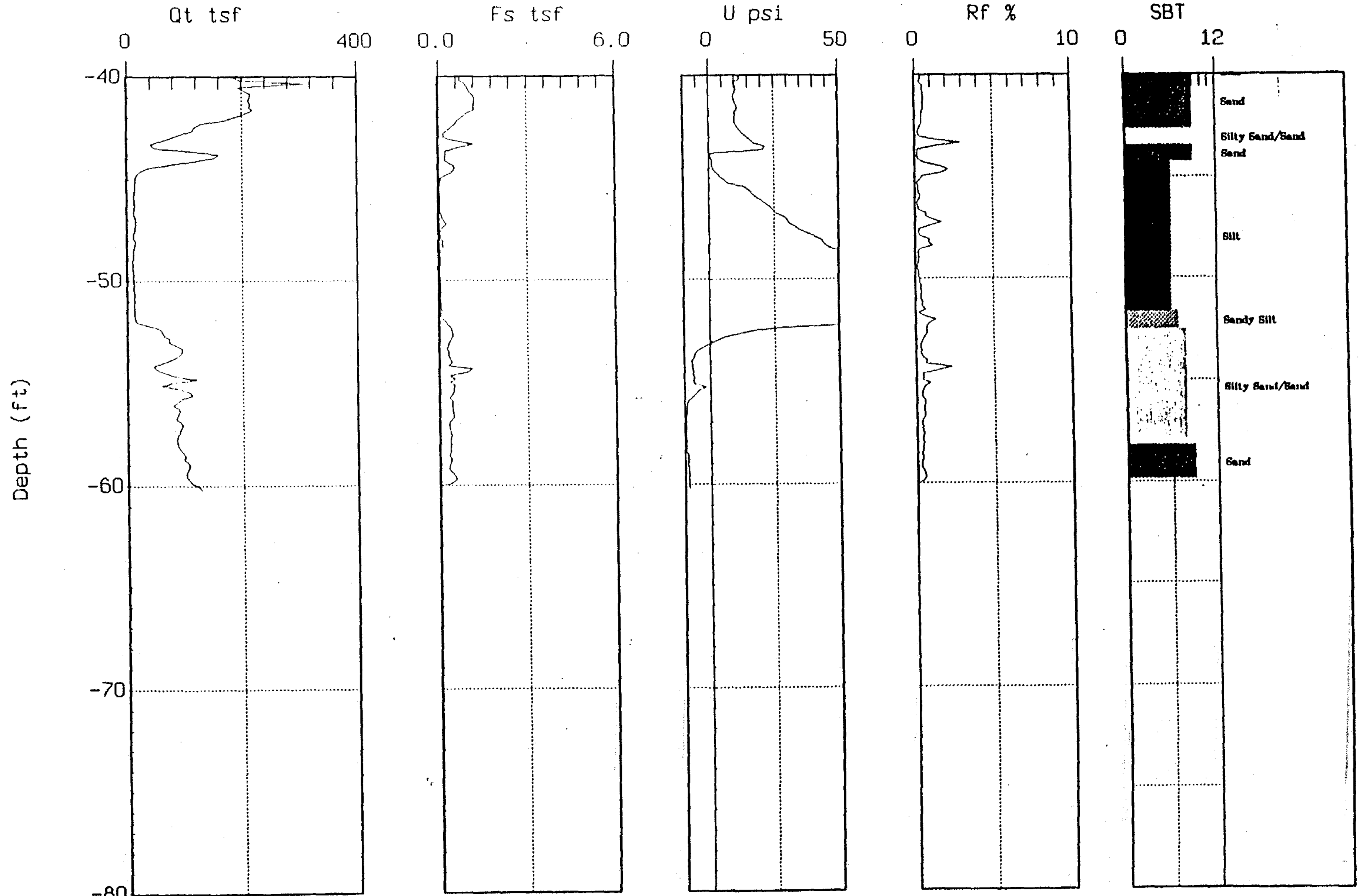
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ABB ENV.

Site : HERNDON ANNEX
Location : 02Q12901

ENGINEER : B. BURNS
Date : 09:23:97 06:18



Max. Depth: 60.20 (ft)

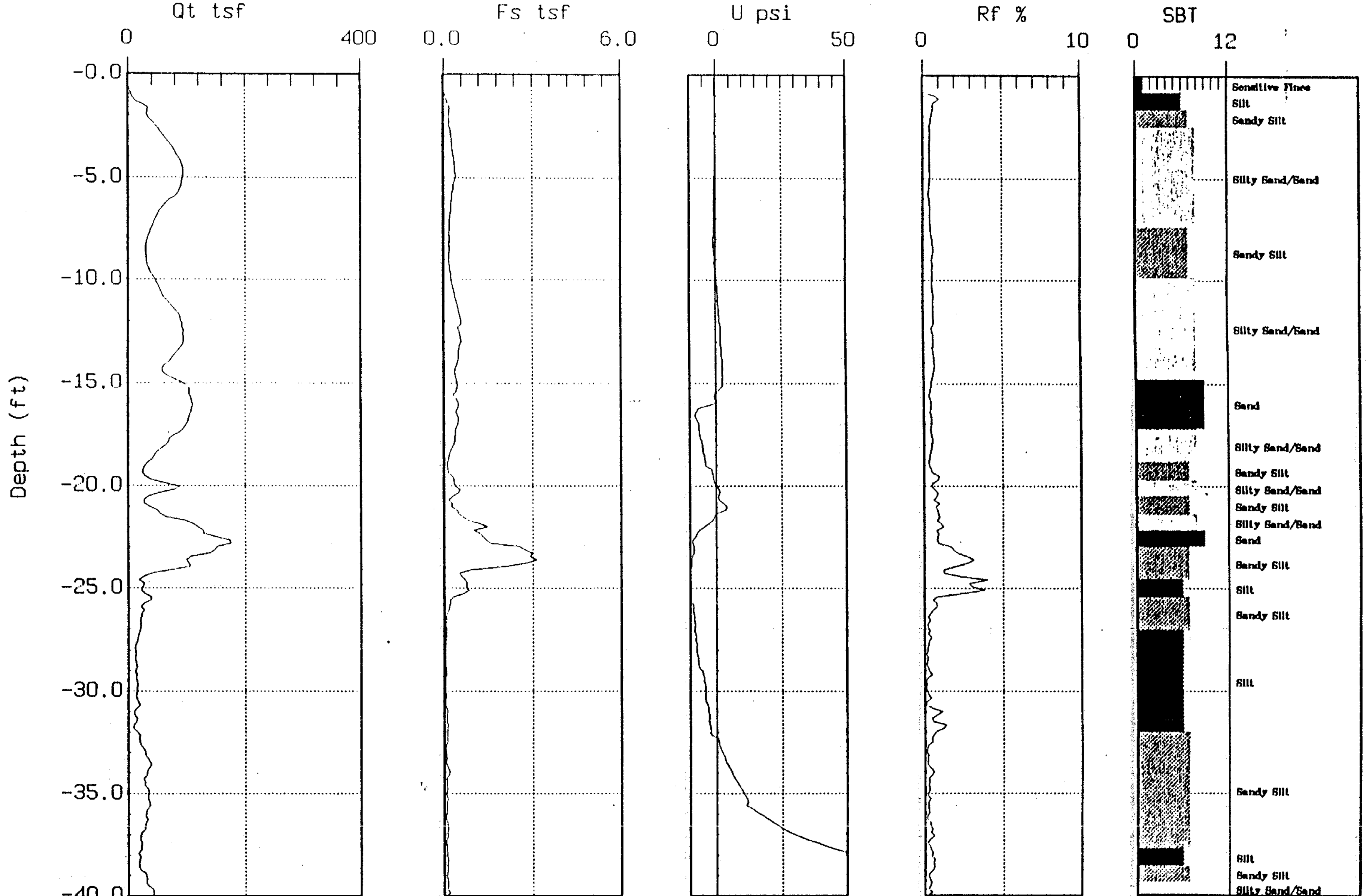
Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

ABB ENV.

Site : HERNDON ANNEX
Location : 02013001

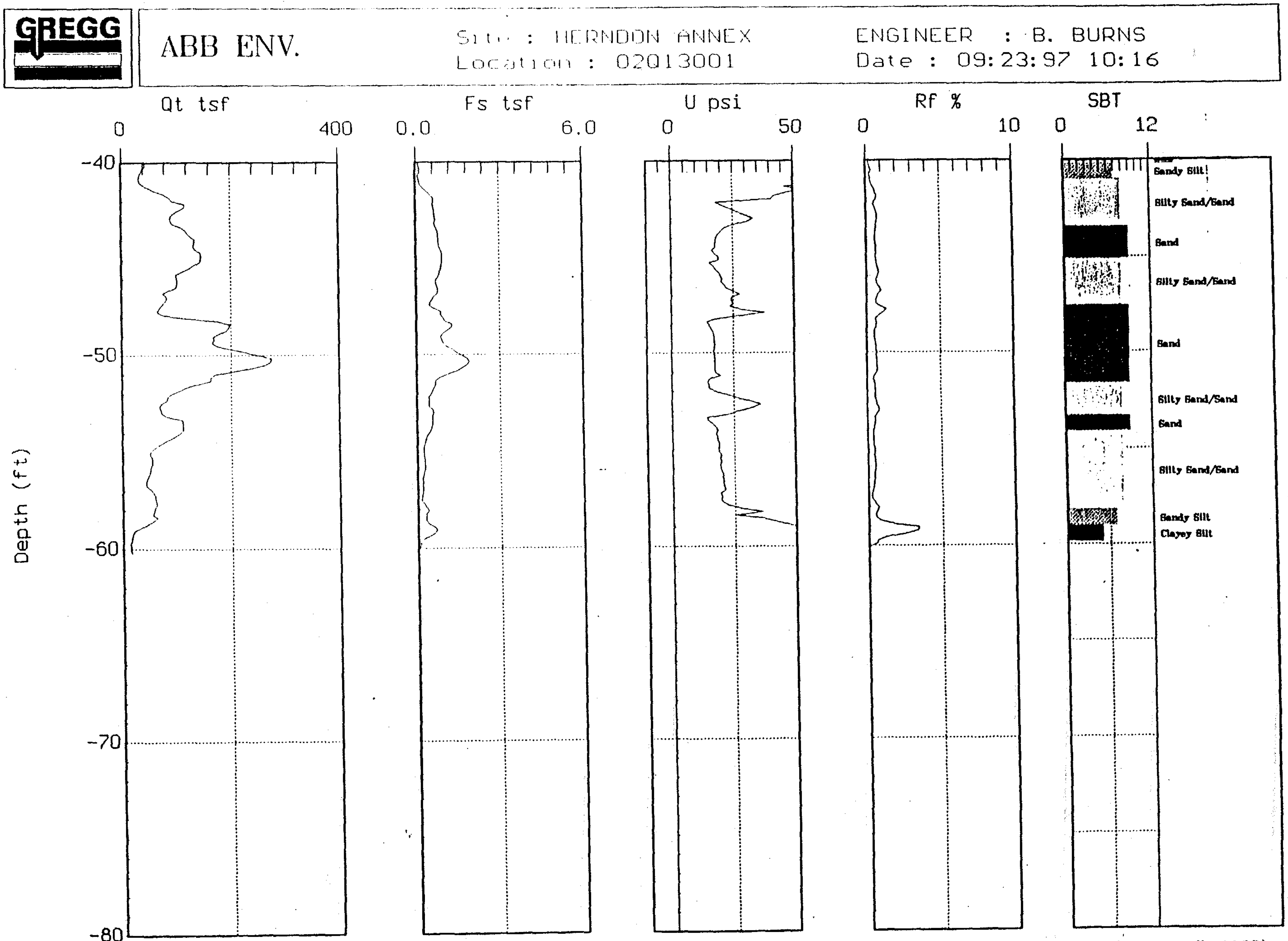
ENGINEER : B. BURNS
Date : 09:23:97 10:16



Max. Depth: 60.20 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)



Max. Depth: 60.20 (ft)

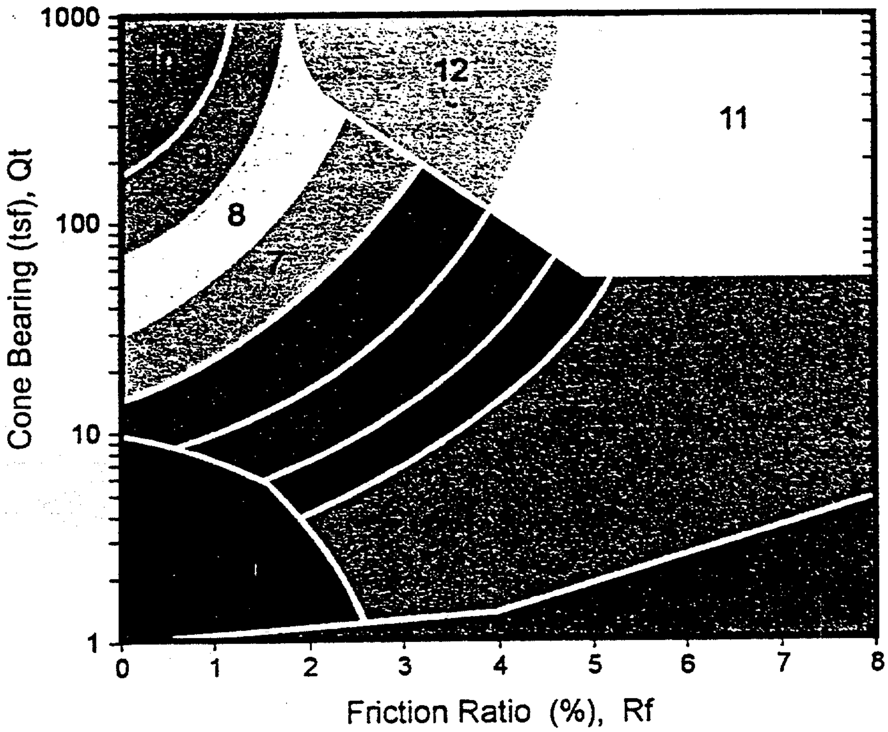
Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

APPENDIX

CPT Classification Chart

(after Robertson and Campanella, 1988)



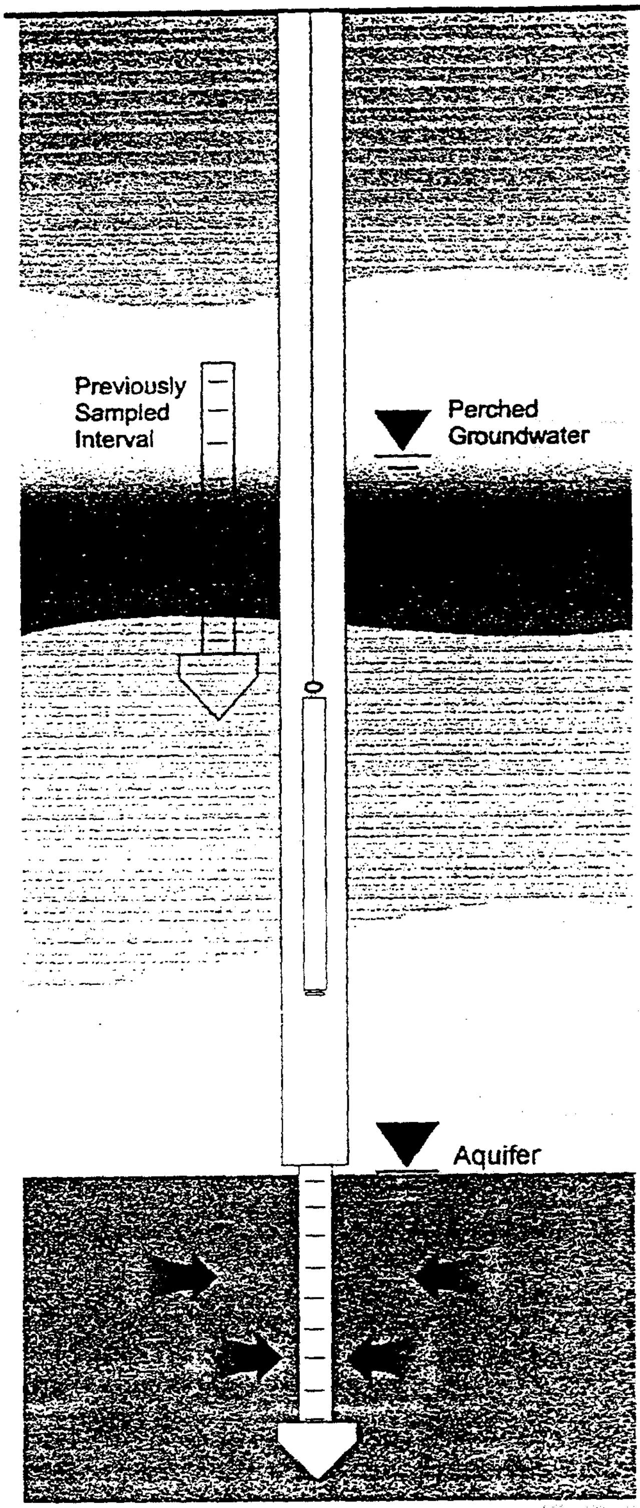
Zone		Q_t / N	Soil Behaviour Type
1	■	2	sensitive fine grained
2	■	1	organic material
3	■	1	clay
4	■	1.5	silty clay to clay
5	■	2	clayey silt to silty clay
6	■	2.5	sandy silt to clayey silt
7	■	3	silty sand to sandy silt
8		4	sand to silty sand
9	■	5	sand
10	■	6	gravelly sand to sand
11		1	very stiff fine grained *
12	■	2	sand to clayey sand *

* overconsolidated or cemented

GREGG

Gregg In Situ, Inc.

Groundwater Sampling



A push-type groundwater sampler with a sealed screen section is used to collect discrete groundwater samples. Both 2 inch and 1 3/4 inch diameter samplers are used depending on the soil type and density. The smaller sampler can generally be pushed to greater depths.

The groundwater samplers have a retrievable stainless steel screen. This allows for multiple depth groundwater sampling using the same penetration hole. If slow recharge occurs or longer term monitoring is required, 3/4 inch PVC well points can be installed using the same samplers.

The groundwater sampler is pushed in a closed positon to the desired sampling interval. The sampler push rod is then retracted exposing the inlet screen. Groundwater flows hydrostatically from the formation into the inlet screen.

For floating layer hydrocarbons, a small diameter bailer (3/4 inch or 1/2 inch) is lowered through the hollow push rods, into the screen section for sample collection. For sampling of larger volume, nonvolatile groundwater samples, 1/4 inch tubing is lowered into the screen and a peristaltic or gas lift pump is used to retrieve the groundwater sample.

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APPENDIX G

NATURAL ATTENUATION SAMPLING RESULTS

Appendix G

Table G-1. Summary of Natural Attenuation Sampling Results
August 1997 and December 1998
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Well ID	OLD-OR-05		OLD-02-01A		OLD-02-02A		OLD-02-03A		OLD-02-04A		OLD-02-05A		OLD-02-06A		OLD-02-07C	
Date	Aug-97	Dec-98	Aug-97	Dec-98	Aug-97	Dec-98	Aug-97	Dec-98	Aug-97	Dec-98	Aug-97	Dec-98	Aug-97	Dec-98	Aug-97	Dec-98
Total Depth (ft bls)	13		17		13		13		15		13		13		62	
Alkalinity (total)	ND	13.6?	ND	74.8	ND	68	ND	dry well	60	68	ND	136	ND	116	ND	26.4
Carbon dioxide	ND	50?	ND	85	ND	70	ND	"		55	ND	150	ND	45	ND	30
Chloride	ND		ND	ND	ND		ND	"	5		ND		ND		ND	
Conductivity (μmho/cm)	ND		ND	ND	ND		ND	"	162		ND		ND		ND	
Dissolved Iron (II)	ND	0.51	ND	0.08	ND	0	ND	"	0	0	ND	0.2	ND	0.66	ND	2.32
Dissolved Iron (III)	ND	1	ND	0.03	ND	0.4	ND	"	0	0.25	ND	0.45	ND	0.4	ND	2.6
DO mg/l	ND	L	ND	1.4	ND	0.5	ND	"	3.9	2.1	ND	0.9	ND	4.3	ND	6.7
Ethane	ND		ND		ND		ND	"			ND		ND		ND	
Methane	ND		ND	2.2	ND	21	ND	"		5.6	ND	7.9	ND	19	ND	20
Nitrate	ND	L	ND	0.1	ND	0	ND	"	0	0	ND	0.1	ND	4.5	ND	1.3
Nitrite	ND		ND	ND	ND	ND	ND	"	0	ND	ND	ND	ND	ND	ND	ND
ORP	ND	15.8	ND	53.7	ND	63.2	ND	"	280.9	49.1	ND	82.7	ND	-12.4	ND	-49.5
pH	ND	4.42	ND	5.84	ND	6.3	ND	"	6.23	6.17	ND	6.04	ND	6.6	ND	6.01
Sulfate	ND	0	ND	2	ND	23	ND	"	0	0	ND	80 L	ND	8	ND	40
Sulfide	ND	0.3	ND	0.1	ND	0.1	ND	"	0	0	ND	0	ND	0.1	ND	2
Temperature (°C)	ND	26.6	ND	27.8	ND	27	ND	"	26.3	27.2	ND	27.6	ND	26.2	ND	26.1
Total Organic Carbon	ND	ND	ND	ND	ND	ND	ND	"	4	ND	ND	ND	ND	ND	ND	ND
Turbidity (NTU)	ND	97.5F	ND	8.12	ND	4.55	ND	"	7.41	7.45	ND	2.71	ND	31.7	ND	1.98

Appendix G

Table G-1. Summary of Natural Attenuation Sampling Results

August 1997 and December 1998

Herndon Annex

Naval Training Center, Orlando

Orlando, FL

Well ID	OLD-02-08C		OLD-02-09A		OLD-02-10C		OLD-02-11A		OLD-02-12C		OLD-02-13C		OLD-02-14C		OLD-02-15A	
Date	Aug-97	Dec-98	Aug-97	Dec-98	Aug-97	Dec-98	Aug-97	Dec-98	Aug-97	Dec-98	Aug-97	Dec-98	Aug-97	Dec-98	Aug-97	Dec-98
Total Depth (ft bls)	65		15		57		15		58		49		46		15	
Alkalinity (total)	5	7	ND	68	20	34	ND	17	*	13.6	*	6.8	*	20.4	NA	13.6
Carbon dioxide		85	ND	40		70	ND	70		50		60		70	NA	70
Chloride	10		ND		10		ND		*		*		*		NA	
Conductivity (μmho/cm)	170		ND		182		ND		120		80		75		NA	
Dissolved Iron (II)	2	1.51	ND	0.66	1.2	1.25	ND	0.14	*	0.85	*	0.43	*	0.37	NA	0.15
Dissolved Iron (III)	1	1.8	ND	0.4	0	1.3	ND	0.3	*	1.2	*	0.8	*	0.65	NA	0.45
DO mg/l	0.82	1.1	ND	4.6	1.1	1.3	ND	2.2	1.7	3.6	1.85	3.5	1	0.8	NA	0.1
Ethane		0.61	ND				ND					1.4			NA	
Methane		270	ND	3.8		1.2	ND	210		8		770		920	NA	89
Nitrate	0	3.3	ND	11.3	0	3.4	ND	0.9	*	3.3	*	3.1	*	2.8	NA	1.8
Nitrite	0	ND	ND	ND	0	ND	ND	ND	*	ND	*	ND	*	ND	NA	ND
ORP	-75.7	-205.8	ND	96	-70.7	-157.5	ND	95.7	54.6	-76.7	-41.8	-98	-55	-142.7	NA	-116.2
pH	4.65	4.96	ND	6.59	5.23	5.85	ND	5.5	5.4	5.06	5.1	4.99	5.13	5.09	NA	4.92
Sulfate	0	62	ND	63	0	52	ND	15	*	39	*	14	*	0	NA	11
Sulfide	0	2	ND	0.1	0	1	ND	0	*	0.1	*	5	*	2	NA	0.5
Temperature (°C)	24.5	25.3	ND	27.5	24.4	25.6	ND	25.4	24.8	25.9	22.6	24.9	25.6	26.6	NA	28.5
Total Organic Carbon	2.9	ND	ND	ND	3.4	ND	ND	ND		ND		ND		ND	NA	ND
Turbidity (NTU)	4.69	4.85	ND	28F	14.6	2.05	ND	2.02F	>200	8.86	>200	6.38	>200	6.55	NA	1.6

Appendix G
Table G-1. Summary of Natural Attenuation Sampling Results
August 1997 and December 1998
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Well ID	OLD-02-16B		OLD-02-17C		OLD-02-18B		OLD-02-19C		OLD-02-20B		OLD-02-21C	
Date	Aug-97	Dec-98	Aug-97	Dec-98	Aug-97	Dec-98	Aug-97	Dec-98	Aug-97	Dec-98	Aug-97	Dec-98
Total Depth (ft bls)	33		50		34		54		41		61	
Alkalinity (total)	NA	6	NA	27.2	NA	13.6	NA	13.6	NA	7	NA	27.2
Carbon dioxide	NA	65	NA	50	NA	55	NA	50	NA	67	NA	50
Chloride	NA		NA		NA		NA		NA		NA	
Conductivity (μmho/cm)	NA		NA		NA		NA		NA		NA	
Dissolved Iron (II)	NA	2.36	NA	1.24	NA	1.94	NA	0.42	NA	0.2	NA	0.82
Dissolved Iron (III)	NA	2.5	NA	1.5	NA	2.25	NA	0.75	NA	0.6	NA	0.75
DO mg/l	NA	0.4	NA	0.7	NA	1.7	NA	0.9	NA	1.2	NA	2.9
Ethane	NA		NA		NA		NA	0.74	NA	0.68	NA	1.3
Methane	NA	78	NA	170	NA	23	NA	240	NA	340	NA	680
Nitrate	NA	0.8	NA	1.7	NA	2.3	NA	0	NA	5.3	NA	0
Nitrite	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND
ORP	NA	-97.4	NA	-148.2	NA	-112.5	NA	-83.3	NA	-147.4	NA	-140
pH	NA	4.87	NA	5.47	NA	4.95	NA	4.99	NA	4.14	NA	5.76
Sulfate	NA	11	NA	0	NA	12	NA	5	NA	15	NA	27
Sulfide	NA	2	NA	0.7	NA	2	NA	0.5	NA	5+	NA	2
Temperature (°C)	NA	26.1	NA	28.7	NA	25.3	NA	24.9	NA	25.9	NA	26.5
Total Organic Carbon	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND
Turbidity (NTU)	NA	2.11	NA	1.28	NA	5	NA	38.8F?	NA	1.1	NA	32.9F

Appendix G

Table G-1. Notes for Natural Attenuation Sampling Results

Herndon Annex

Naval Training Center, Orlando

Orlando, FL

Notes: All values are in milligrams per liter unless otherwise noted.

(*) Due to high turbidity, Hach test kits were not used.

F = After filtration

L = Out of scale reading due to high turbidity

NA = Not applicable

ND = Not *determined*

NTU = Nephelometric turbidity units

Appendix G
Table G-2. Natural Attenuation Evaluation
Intermediate and Deep Wells Only
December 1998
Herndon Annex

Naval Training Center, Orlando
Orlando, FL

Well ID	Dissolved Oxygen (mg/l)	Nitrate	Sulfate	Dissolved Iron (II)	Methane	Alkalinity (total)	Carbon Dioxide	Dissolved Iron (III)	Ethane	ORP	Sulfide	pH	Temperature	Turbidity (NTU)	Total Depth	Benzene (ppb) Mar 1995	Benzene (ppb) Aug-Nov 1997	Benzene (ppb) Dec 1998
Wells within plume																		
OLD0208C	1.1	3.3	62	1.5	270	7	85	1.8	0.61	-205.8	2	5	25.3	4.85	65	**21**	**35**	**23**
OLD0210C	1.3	3.4	52	1.3	1.2	34	70	1.3		-157.5	1	5.9	25.6	2.05	57	**32**	**7.6**	**0**
OLD0213C	3.5	3.1	14	0.4	770	6.8	60	0.8	1.4	-98	5	5	24.9	6.38	49	N/A	**83**	**71**
OLD0219C	0.9	0	5	0.4	240	13.6	50	0.75	0.74	-83.3	0.5	5	24.9	38.8	54	N/A	**53.5**	**38**
OLD0220B	1.2	5.3	15	0.2	340	7	67	0.6	0.68	-147.4	5	4.1	25.9	1.1	41	N/A	N/A	**46**
OLD0221C	2.9	0	27	0.8	680	27.2	50	0.75	1.3	-140	2	5.8	26.5	32.9	60	N/A	N/A	**50**
Wells outside plume																		
OLD0207C	6.7	1.3	40	2.3	20	26.4	30	2.6		-49.5	2	6	26.1	1.98	63	ND	N/A	ND
OLD0212C	3.6	3.3	39	0.9	8	13.6	50	1.2		-76.7	0.1	5.1	25.9	8.86	58	N/A	ND	ND
OLD0214C	0.8	2.8	0	0.4	920	20.4	70	0.65		-142.7	2	5.1	26.6	6.55	46	N/A	ND	ND
OLD0215A	0.1	1.8	11	0.2	89	13.6	70	0.45		-116.2	0.5	4.9	28.5	1.6	15	N/A	ND	ND
OLD0216B	0.4	0.8	11	2.4	78	6	65	2.5		-97.4	2	4.9	26.1	2.11	33	N/A	ND	ND
OLD0217C	0.7	1.7	0	1.2	170	27.2	50	1.5		-148.2	0.7	5.5	28.7	1.28	50	N/A	ND	ND
OLD0218B	1.7	2.3	12	1.9	23	13.6	55	2.25		-112.5	2	5	25.3	5	34	N/A	ND	ND
AVERAGE WITHIN PLUME	**1.8**	**2.5**	**29.2**	**0.8**	**383.5**	**15.9**	**63.7**	**1.0**	**0.9**	**-138.7**	**2.6**	**5.1**	**25.5**	**14.3**				
AVERAGE OUTSIDE PLUME	**2.0**	**2.0**	**16.1**	**1.3**	**186.9**	**17.3**	**55.7**	**1.6**	**0.0**	**-106.2**	**1.3**	**5.2**	**26.7**	**3.9**				
N/A = not applicable (wells not yet installed)																		
ND = benzene not detected																		